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1950

fueloil & oil heat

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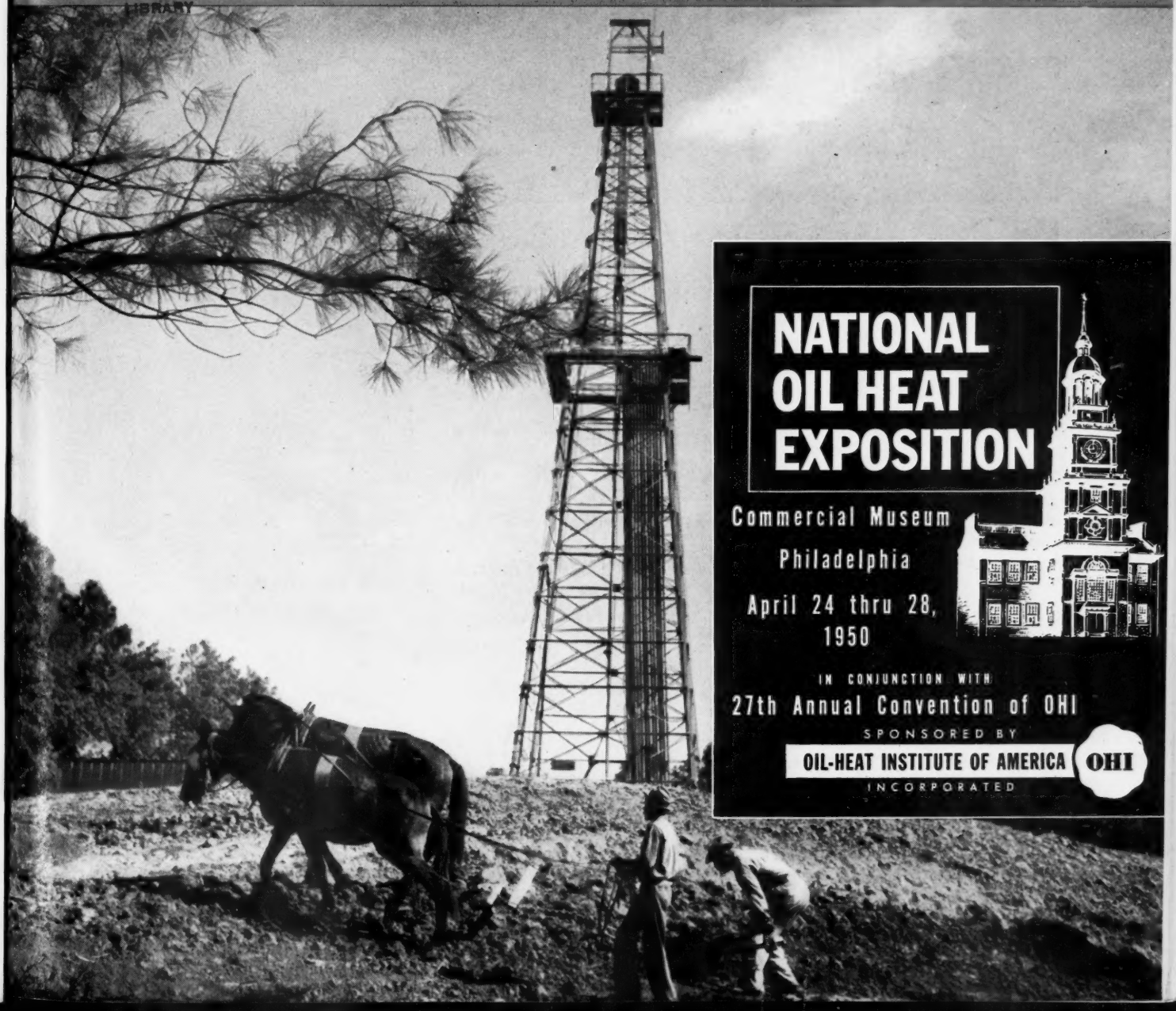

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VOL. 9, NO. 4

fueloil & oil heat

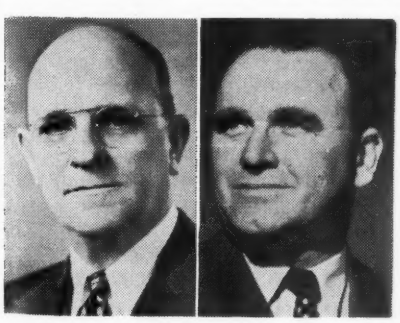
APRIL 1950

Names in the News

Ivan C. Sutherland has been named divisional sales manager for the New England territory for the May Oil Burner Div., Gerotor May Corp., Baltimore, Md. Mr. Sutherland has been connected for a number of years with several wholesale and retail distributing concerns. He will represent the complete line of Quiet May oilheating equipment, including conversion burners, boiler and furnace-burner units and will maintain headquarters at Andover, Mass.

H. H. Falkingham has been promoted from district representative to eastern area field sales manager, Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill. With headquarters in New York City, Mr. Falkingham will have supervision over sales for the entire Atlantic coast. *R. F. Becker,* former district representative in central Illinois, has succeeded Mr. Falkingham as field sales representative covering Kentucky, Tennessee and southern Indiana.

Paul J. Bracken has been appointed manager, Philadelphia branch sales office National Radiator Co., Johnstown, Pa. At the same time the promotion of *Henry F. White* to manager of the Boston branch sales office was reported. Mr. Bracken had been manager of that office



Bracken White

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VOLUME 9, NUMBER 4 OF FUELOIL & OIL HEAT, PUBLISHED MONTHLY BY HEATING PUBLISHERS, INC., BALTIMORE, MD., AND 232 MADISON AVE., NEW YORK 16, N. Y., SUCCESSOR TO FUELOIL JOURNAL (1922) AND AIR CONDITIONING & OIL HEAT (1928), APRIL, 1950.

HEATING PUBLISHERS, INC., 232 Madison Ave., New York 16
Phone: LExington 2-4566 & 4567

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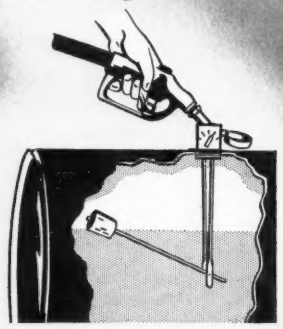

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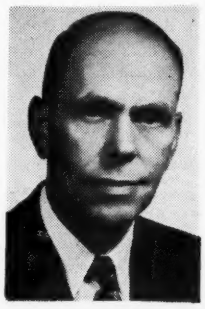
for the past sixteen years; Mr. White a sales representative in eastern Massachusetts since 1936.

V. M. Douglas has been named manager, Burner Div., Enterprise Engine & Foundry Co., San Francisco, Cal. He is widely known in the trade and has been identified with the manufacturing, engineering and installation of oilburners for a number of years. Since joining Enterprise more than a year ago he has served in its engineering and experimental departments as well as in field service activities. Mr. Douglas will headquarter in San Francisco.

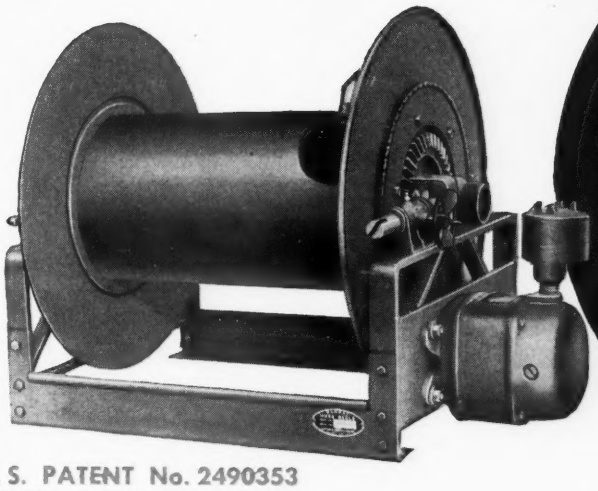


Russell S. Quimby has advanced from sales manager to general sales manager, Meyer Furnace Co., Peoria, Ill., in one of a series of personnel changes. *Hugh C. Garver, Jr.,* assistant to the president, assumes responsibility for private brand, government and project sales; *Harold V. Walker* has been appointed assistant sales manager and *Charles A. Raper* has been promoted to advertising and sales promotion manager. *Ray W. Qualley,* former chief product engineer, now is factory manager in charge of the Peoria and Peru, Ind., plants and *John J. Boland,* chief application engineer, has assumed supervision of product design.

Marion A. Miller has replaced C. C. West, who is retiring, as manager of the Atlanta, Ga., district for Perfection Stove Co., Cleveland 4, Ohio. He first joined the Atlanta District in 1936 as a salesman, left to go with a Tampa, Fla., furniture company and returned to the Atlanta District in 1947. He became its assistant manager in 1949. Also appointed at about the same time was *James B. Moore,* added to the staff of Perfection's Cleveland sales district, to represent the company in North Carolina and Virginia.

Miller

NEW . . . the HANNAY HOSE REEL* with Explosion-Proof ELECTRIC MOTOR



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Editorial Leaks

Pack your pajamas and tooth brush and come to the Oilheating Show at Philadelphia during the week of April 24. It will cost you a few dollars but there is no way you could spend them to better advantage.

Some folks stay home because they think they can get all the low down anyway by reading in the magazine about the new products and the convention sessions. It's true that they can get a lot that way or we wouldn't be in business. But they miss the greatest value.

It's the getting together aspect of a big exposition and convention, the opportunity to mingle with a lot of folks, literally thousands, who think like you do and work like you do that brings the big reward for the trip. No man can rub shoulders with that many people in the same business without absorbing a lot of ideas, without absorbing spirit and enthusiasm enough to serve as a shot in the arm for a whole year ahead.

Oilheating as an industry is not the general heating industry and it is not the general oil industry. Long ago it took a vertical slice out of each of those industries, slapped them together and formed a complete new industry . . . oilheating. The big majority of the men who will be at Philadelphia eat, breathe and sleep oilheating. Surrounded by so many of them you'll understand, you'll know for sure that our industry is important, it's aggressive, it is improving the living standards of millions, and it is going places again this year.

Don't miss spending a week or a day in this fellowship of kindred minds.

◈

The oilheating industry has not taken much interest in the oil men's wrangle over whether or not imports of petroleum and its products should be reduced by Government restrictions. While oil producers and small refiners have made the question a big issue in Washington and in their association activities, our crowd has yawned.

But now it seems that one phase of the problem does affect us very much. It is a point that has had no recognition nor publicity.

We cannot escape the feeling that a curtailment of residual oil imports will seriously injure the independent oil producer rather than help him as he has been led to believe.

The whole matter cannot be divorced from the subject of natural gas expansion. The independent oil producer and his advisers seem to have ignored this angle.

Natural gas cannot invade the Eastern markets in its ultimate large volume unless it can capture the industrial load. Heating is a seasonal use, of course, and not more than about one-fourth of the capacity of a natural gas pipeline can be justified for this use; the remaining three-fourths needs industrial demand.

Natural gas is commonly sold to industry on an interruptible basis at dump price rates. This dump price for the East, based on bare cost of the gas to the pipeline, would be around 30¢ per Mcf. That corresponds to a residual oil price of about $1.80 per barrel, somewhere near the present price.

Imports supplied over 70 million barrels of residual fuels last year. If this quantity were withdrawn from the market, or seriously curtailed, the resulting shortage would force residual prices up sharply. They would quickly reach the point where manufacturers would ask for natural gas at dump rates.

How could this injure the Southwestern oil producer? By cutting his market for light heating oils, a profitable product, since it would facilitate the rapid growth in the number of home heating gas consumers.

Here's how it would work . . . a Brooklyn homeowner today uses about 1,700 gallons of fueloil to heat his home for a season. At today's average price of 10.8¢ it would cost the consumer $183.60 for the year. Of that amount the individual well owner in the Southwest would get $107.10, or the well owner gets 58% of the retail price.

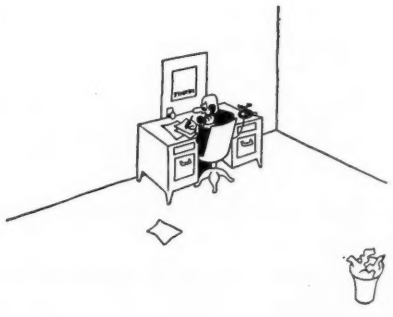
If that house were to be heated with natural gas, the amount required would be approximately 238 Mcf for the year. We don't know what the rate would be, but in Eastern markets generally where natural gas is available, the rate is somewhat higher than oil. Let's assume it would be the same, or $183.60. The well owner out in the Southwest would get for his share an average rate of 6¢ per Mcf or he would get $14.28 for heating the house through the season. The well owner when gas is used gets only 8% of the retail value. The balance goes to pipeline promoters, Wall Street brokers and stockholders of the lines.

It is true that the interests of the oil and gas men in Texas are not always the same, but in most instances they are. The large majority of gas volume comes from oil producing fields.

We are not dealing with the question of whether or not an Eastern householder should have gas for heat. The import problem has come about through the claims and fears of the independent oil producer in Texas. To such a degree as import restrictions on residual fuel cause its price to advance in a short market, gas will move East in greater volume and rob the well operator of much of the income he gets when Eastern homes are oilheated.

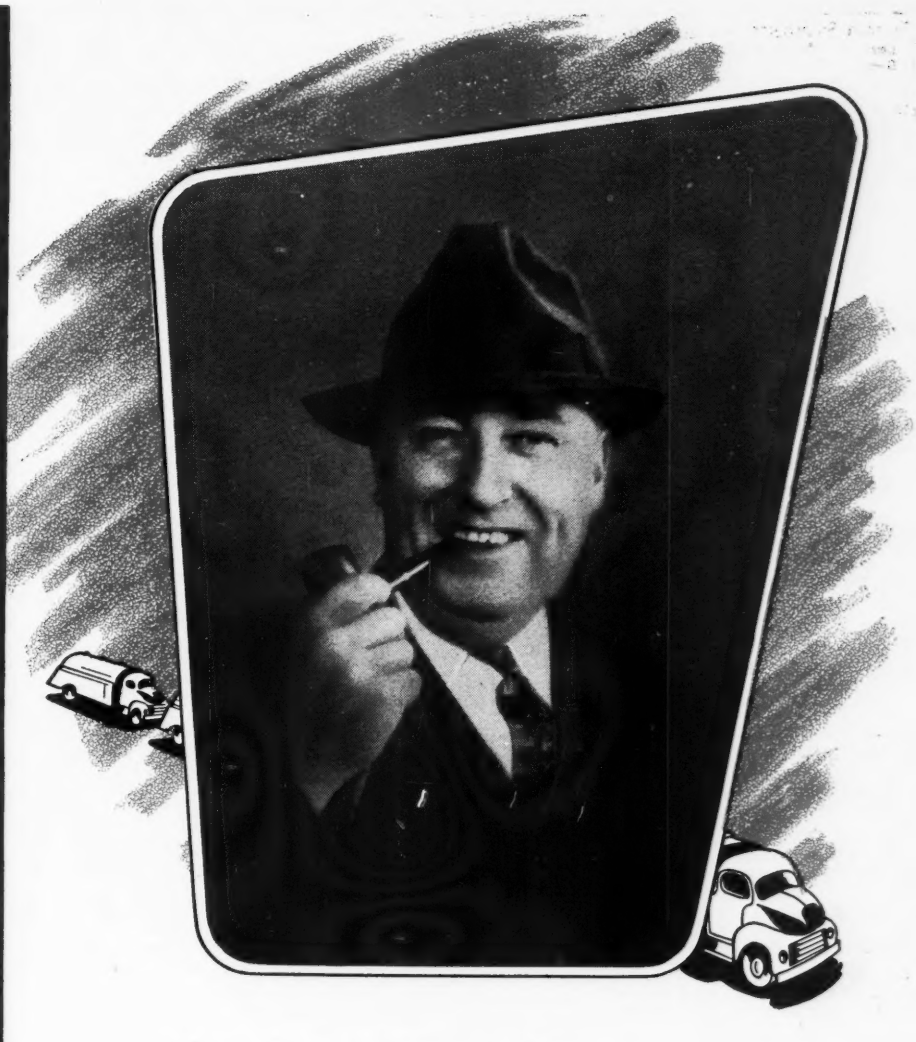
Residual fuel has nearly always been a dump price product. Any attempt to sweeten it through artificial trade restrictions will result in harm to the much more valuable product, home heating oil.

In this event it will become well nigh impossible for the well operator to continue to get his present price of $2.65 for crude oil . . . a price that has made him so prosperous and easy going that he has had to hire outside experts to do his thinking for him.



"Miss Joyce, I don't want to see anyone else today! I'm getting ready to leave for the Philadelphia Oilburner Show."

MEN OF DECISION



Charles T. Reardon, PRESIDENT

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There is no question but that the cost of furnishing Ventalarm Signals to our customers — which we absorbed in all cases — more than paid for itself during the first year.

Charles T. Reardon

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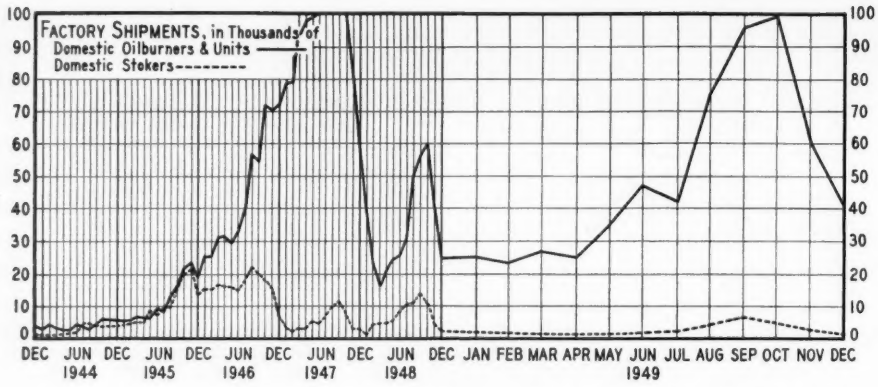
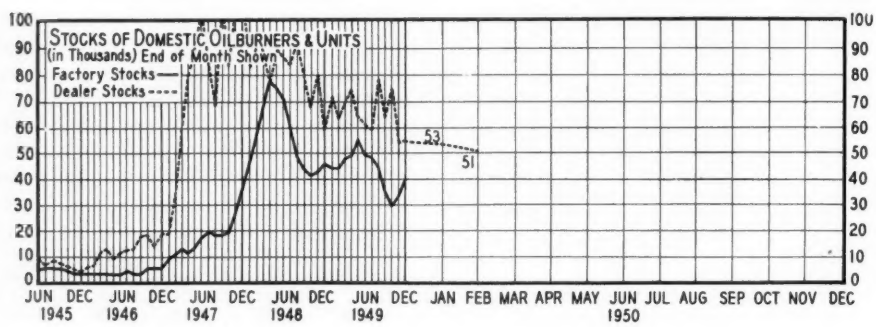

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947 1948 1949

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	JANUARY			TWELVE MONTHS		
	1950	1949	Percent Change	1949	1948	Percent Change
Conversion	26,628	20,327	+ 31.0	445,966	287,829	+ 54.9
Boiler units	3,771	1,679	+124.6	54,652	38,187	+ 43.1
Furnace units	6,481	3,693	+ 75.5	96,674	86,843	+ 11.3
All Domestic	36,880	25,699	+ 43.5	597,292	412,859	+ 44.6
Commercial	1,698	1,881	— 9.7	25,736	28,433	— 9.6
Total	38,578	27,580	+ 39.9	623,028	441,292	+ 41.1


STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
53
51
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1945 1946 1947 1948 1949 1950

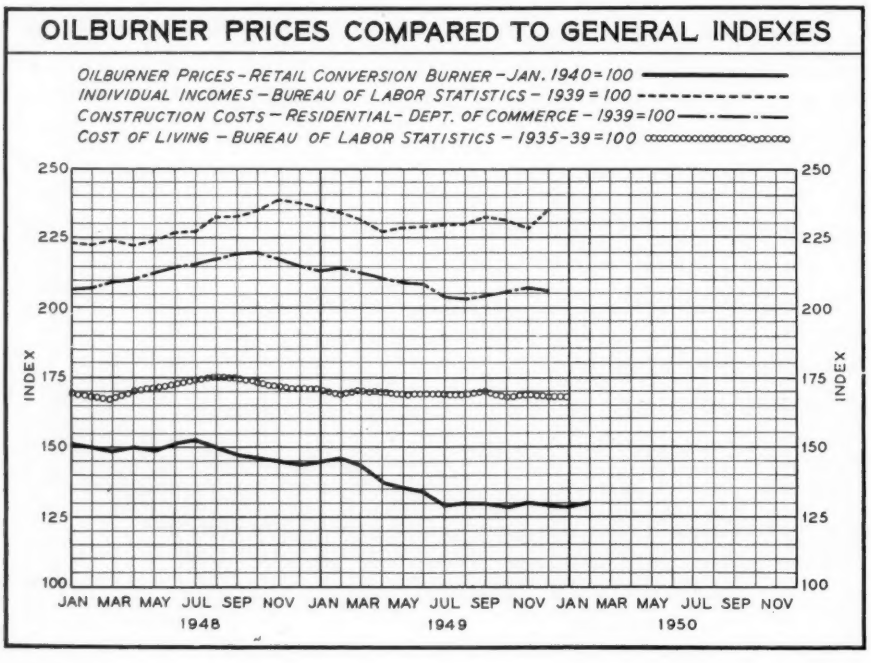
February Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
February Aver.	$307	$640	$557
January Aver.	310	649	560

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL		
February	122.8	Six months ago	127.1	February	130.1	Six months ago	130.4
January	127.6	Year ago	139.3	January	127.9	Year ago	145.6

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
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JAN MAR MAY JUL SEP NOV JAN MAR MAY JUL SEP NOV JAN MAR MAY JUL SEP NOV
1948 1949 1950

Oilheating Trends

FEBRUARY INSTALLATIONS of domestic oilburners and units are estimated at 25,775, only a slight rise over the 24,823 installed in the same month a year ago. February is normally a very low month in the year's lineup, principally because families burning coal are not inclined to make a change so late in the heating season.

February installations were divided: New homes 8,517; Replacements of old oilburners 6,514; Conversions from other fuels 10,744.

Totals for the first two months of the year were 58,354 installations compared with 54,981 in the first two months of 1949, a rise of 6%. The two month installations were divided: New homes 20,962; Replacements 14,561; Conversions from other fuels 22,831.

BURNER STOCKS: Stocks of domestic oilburners and units in dealer hands on March 1 are estimated at 50,728, a decline from 53,387 the previous month. Certainly these dealer stocks are low, apparently because of uncertainty over prices. Factory stocks at the end of December, the latest available data, were 40,020, continuing the rise of the previous month and substantially up from the low point of 29,205 at the end of October.

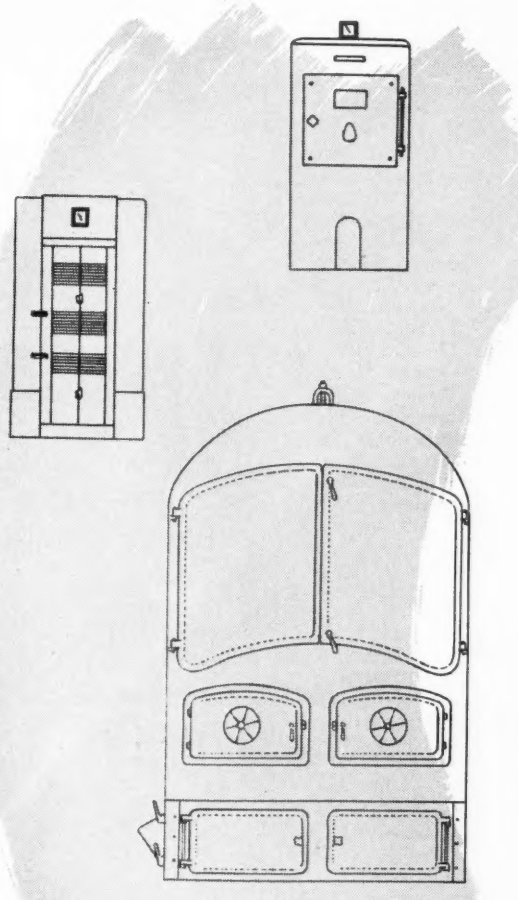
CREDITS AND COLLECTIONS: A year ago there was considerable concern among dealers over their collections but at present the situation seems to be within bounds. Among all reporting dealers 25% say that collections are good, 56% say they are fair, and only 19% say they are unsatisfactory or poor. Of course, that basis of measurement leaves a lot to be desired since no two dealers would have identical methods of rating. A better yardstick on collections is the fact that among all reporting dealers their accounts receivable on their month-end balance sheets of February 28th represented an average of 6.1 weeks total sales prior to that date. When you consider that the majority of February bills would not be paid until some time in early March the indications are that somewhat less than half of the month-end accounts receivable would be considered delinquent on a thirty day basis.

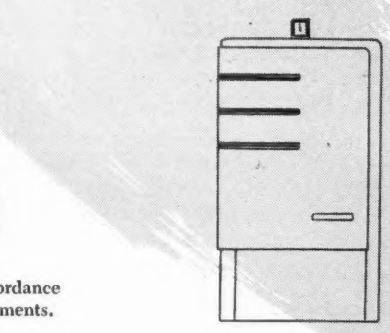
Another good measure of credit con-

SPENCER

THE QUALITY LINE OF

HEATING BOILERS





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LYCOMING-SPENCER DIVISION
WILLIAMSPORT AVCO PENNSYLVANIA

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ditions is the amount of actual losses in the past year. During 1949, the reporting dealers charged off as bad debts an average of 61/100 of 1% of their total billing. This is a low figure for any industry. It is rather common practice among credit men to set up a reserve against losses amounting to 1% of gross billing. They don't actually want to avoid all losses since they feel that such a policy would drive away too much business by never taking a chance. No credit man would ever be fired when he keeps his losses in a range just below 1% but he should be fired promptly if he had no losses.

FUELOIL CONTRACTS: Among all reporting fueloil distributors 63% will ask their customers to sign contracts this spring; the balance will not. Among those companies who go after contracts their average experience has been that about three-fifths of their customers sign contracts, or at least that was their experience last season. That would indicate that among all fueloil users in the country only about 38% actually sign a contract. This makes the whole idea appear questionable. A few of the largest companies have gotten away from the formal legal looking contract and simply ask their customers to tell them that they expect to keep on using their oil. This is accomplished with a postcard having not more than a dozen words on it something like this, "Please continue to supply my home with XYZ oil during the coming season."

Fueloil contract season has always been the happy hunting period to try and bag other companys' customers. Asked what per cent of their contracts during an average year have been taken away from some other fueloil distributor the composite figure among those reporting is 5.5%. Of course, this refers to contract signing only and the indications are that the total number of shifts in a year would be somewhat above that figure.

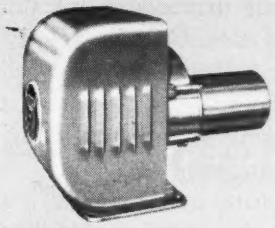
COMPETING WITH GAS: In 29% of the markets represented by reporting dealers there is some kind of group or cooperative plan underway to resist the inroads of gas heating. However, in less than half of those markets, or 13% of the total heard from, financial budgets have been set up and have been collected or are in the process. The amount of money in these annual war chests appears to represent about 20¢ for each oilburner operating in the market. In other words, in a city with 100,000 burners in use the promotional budget to fight gas competition is around $20,000. If this sum is related to the amount of oil burned in that market in a season it would represent about 1/80th of one cent a gallon. If the oilburner dealers and fueloil distributors in these markets seriously believe that gas is about to jeopardize their businesses they are not doing very much to defend them with such small outlays.

(*Continued on page* 190)

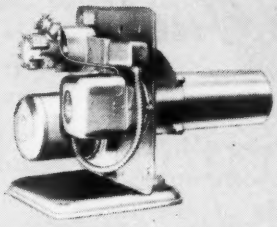
Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
February		2 MONTHS			*February*		2 MONTHS	
1950	*1949*	*1950*	*1949*		*1950*	*1949*	*1950*	*1949*
32	15	73	44	Albany, N. Y.	..	..	..	..
238	411	755	539	Baltimore, Md.	837	109	1058	129
..	..	..	..	Binghamton, N. Y.	2	2	3	14
..	..	..	..	Bloomfield, N. J.	1	2	8	3
..	202	..	568	Boston, Mass.	11	9	43	15
45	35	118	134	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	82	13	..	31
5	..	..	..	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	38	20	64	30
..	520	..	1428	Detroit, Mich.	1116	429	2225	611
23	31	64	84	Elizabeth, N. J.	0	1	12	5
48	20	64	34	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	19	12	44	19
..	..	..	..	Hackensack, N. J.	30	3	57	3
79	75	304	194	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
14	14	30	20	Irvington, N. J.	3	1	3	1
..	..	..	..	Lynn, Mass.	6	9	20	15
20	37	90	43	Meriden, Conn.	..	..	..	..
166	177	351	432	Milwaukee, Wisc.	177	21	327	82
51	63	146	147	Minneapolis, Minn.	37	23	85	56
13	5	25	17	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	..	11	..	0
12	12	40	31	Mt. Vernon, N. Y.	..	..	..	..
..	56	..	105	Newark, N. J.	..	..	..	..
162	120	265	192	New Bedford, Mass.	..	..	..	..
21	18	51	61	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
10	10	43	21	New Rochelle, N. Y.	3	3	9	3
1442	1130	3689	2877	New York City (total)	..	..	..	..
1054	839	2655	2170	Brooklyn-Queens	..	..	..	..
388	291	1034	707	Manhattan, Bronx, Rchd	..	..	..	..
50	112	111	185	Norfolk, Va.	120	34	201	66
..	3	..	3	Oakland, Calif.	..	..	..	..
58	26	115	85	Omaha, Neb.	26	5	45	12
8	2	12	10	Orange, N. J.	0	1	0	1
8	13	14	24	Passaic, N. J.	..	..	..	..
28	21	53	37	Paterson, N. J.	11	6	19	7
263	240	771	585	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	6	6	20	8
15	12	39	34	Portland, Me.	4	2	10	4
373	625	633	1029	Portland, Ore.	131	97	225	225
7	6	18	16	Poughkeepsie, N. Y.	..	..	..	..
37	34	101	84	Providence, R. I.	17	6	30	11
..	..	..	..	Reading, Pa.	3	3	12	6
54	71	130	185	Richmond, Va.	59	57	117	114
69	..	158	..	Roanoke, Va.	..	..	..	..
86	111	185	255	Rochester, N. Y.	..	..	..	..
14	8	36	37	Rockville Center, N. Y.	15	7	21	7
12	23	42	44	Salem, Mass.	3	4	6	7
..	103	..	210	St. Louis, Mo.	50	22	87	29
93	94	222	255	St. Paul, Minn.	48	31	66	35
39	53	124	90	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	149	79	263	160
..	..	..	..	Springfield, Mass.	43	15	59	30
55	44	151	95	Stamford, Conn.	..	..	..	..
10	25	27	86	Syracuse, N. Y.	16	7	48	22
..	..	..	..	Trenton, N. J.	2	1	3	2
..	..	..	..	Utica, N. Y.	0	0	3	1
69	92	193	207	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	17	4	28	8
12	5	24	13	White Plains, N. Y.	11	3	17	22
30	69	100	120	Wilmington, Del.	23	3	30	3
69	87	173	219	Worcester, Mass.	..	..	..	..
35	19	58	36	Yonkers, N. Y.	..	..	..	..
5243	5095	13129	11478	*Totals*	3116	1048	5268	1765
+2.9		+14.3		*Percent Change*	+197.3		+198.4	

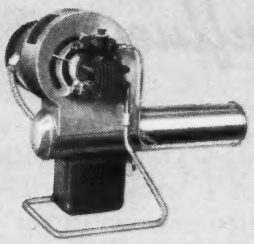
*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.



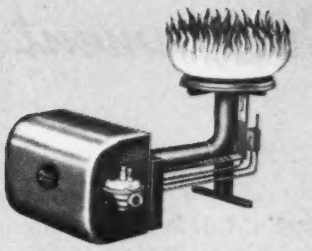
ELECTRONIC MODEL of Master Kraft conversion oil burner. Complete range from 1 to 10 G.P.H. A Super-Safe burner.



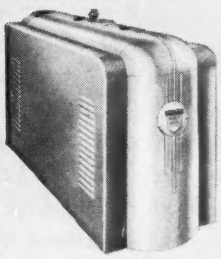
MODEL OS series without cover and with Stack Control. Capacity range from 1 to 6 G.P.H. Quick change service units.



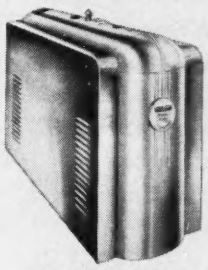
MODEL R series. Capacity .85 to 1.75 G.P.H. Attractively priced for mass market.



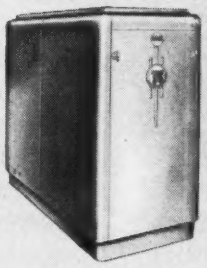
GAS CONVERSION BURNERS from 140,000 to 400,000 B.T.U. for natural, mixed, or manufactured gas. Extremely attractive price.



Master Kraft Sun-Blaze boiler unit, Model 325.

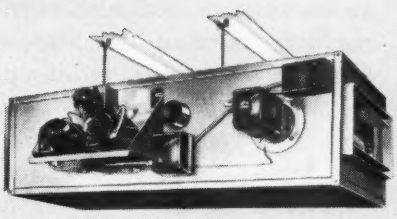


Master Kraft Sun-Blaze boiler unit, Model 450.

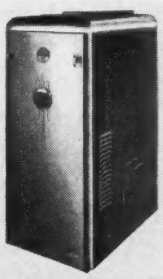


Master Kraft Sun-Blaze boiler unit, Model 750.

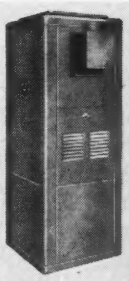
SEE US AT OHI Show Philadelphia Space 511



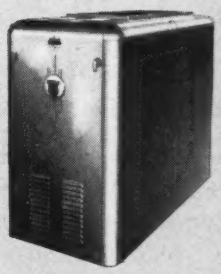
SUSPENDED MODEL warm air furnace for oil only, 75M and 110M B.T.U.



Master Kraft Warm Air Conditioners, Models W-75 and W-100.



Master Kraft Warm Air Conditioners, for gas. Complete range



Master Kraft Warm Air Conditioners, Models W-130 and W-150.

COMPLETE ADVERTISING SUPPORT. Master Kraft national advertising for 1950 will reach millions upon millions of people — telling the story of Master Kraft economy and exclusive features. Plenty of local advertising support right in your area through cooperative advertising plan. Posters, signs, colorful literature — all free of charge. Be thrifty — use Master Kraft selling helps in 1950.

A few franchise territories now open. Mail coupon for details.

MAIL THIS COUPON TODAY

Harvey-Whipple, Incorporated
Dept. FO-11
Springfield, Mass.

Send me details about 1950 Master Kraft line.

Name.....

Address.....

City..... State.....

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — A full-scale investigation of coal, oil, gas and other forms of energy (except atomic) probably will be launched soon with a view to developing a national fuels policy.

President Truman has long favored the idea of a comprehensive study of the inter-relationships of various fuels. He prefers that Congress take the lead but if the legislators are unwilling, then it can be expected that a presidential commission will be set up to do the job.

Such a fuels commission would be along the lines of the Baruch Rubber Committee of 1942 which studied the situation resulting from Japanese seizure of the rubber plantations and then recommended a national policy on rubber —natural and synthetic—which was enacted into law including "end use" controls and other regulations.

There is a danger that out of such a fuels investigation may come recommendations for government controls on the production, price and use of various fuels.

Coal Investigative Commission

President Truman, at the height of the recent coal crisis, sent a legislative request to Congress for a coal investigative commission which would study the coal industry and its problems "taking into account the relationship between coal and other sources of energy."

It was enthusiastically greeted by Senate Majority Leader Lucas (D, Illinois) who pointed out "that many thousands of coal consumers have been turning to oil and gas because of the recurrent interruptions in coal production."

"This is not a salutary or wholesome trend," Senator Lucas said. "While oil and gas are useful as supplementary fuels, we should not dip into our oil and gas reserves while we have such a plentiful supply of our basic fuel economy —coal. If we go on as we have been doing in the last few years, we may jeopardize the precious reserves of oil which are vital for the defense of America."

Meanwhile, Acting Secretary of Commerce Blaisdell was adding his voice to the Truman Administration's suggestions for a study of inter-fuel competition—including the price angle —saying: "The national economy requires an adequate fuel supply in peacetime and in wartime. In this respect we must give consideration to fuel costs to consumers and to the inter-relation of coal, gas and oil if adequate fuel supplies are to be available to the Nation."

But it remained for Senator Myers (D, Pennsylvania) to spell out the situation, perhaps after a nod from the White House. He put in a resolution for a complete study of all fuels—including the reserves, rate of consumption and uses thereof.

"We cannot consider coal as an isolated energy source," said Senator Myers, arguing for a broadening of the coal study to cover all fuels, "I feel that if we are to arrive at a national fuel policy—a policy long overdue—we must direct the same kind of attention to every known or conceivable fuel source (except atomic energy)."

Strangely, Senator Myers opposed the Kerr Gas Bill (to exempt independent producers from Federal Power Commission's control) on grounds that it would increase consumer prices for gas. Yet two years ago, Myers favored an almost identical measure, the Priest Bill. Probable answer is that Myers has become convinced that even higher prices would not make gas any less a rival of coal, so he is looking to other hobbles—perhaps "end use" controls—to impose on competitive fuels.

Gas producers based their case for the Kerr Bill on two grounds, (1) that if FPC carries out its threat to control field prices paid by the interstate pipelines for gas, it will mean control of oil prices, too, which would be ruinous because producers cannot exist on a mere 6% return, and (2) FPC will go further and roll back gas prices in existing contracts.

Evidence that the gas producers' fears are not idle was the FPC's recent launching of a case aimed at bringing Phillips Petroleum Company under its control so that recent increases in gas prices can be rolled back. Complaints to FPC charged that if Phillips were compelled to restore the original prices, then the resale rate could be reduced by 5¢ to 7¢ per thousand cubic feet.

During debate on the Kerr Bill, it was pointed out that producers might refuse to sell their gas at the prices dictated by the FPC. This was denounced by opponents as a "boycott threat" which would "invite, sooner or later, ever more stringent public regulation, and finally public ownership."

Let Prices Seek Own Levels

Yet, as one authority has pointed out, there isn't near enough gas in the United States to supply all the the people who will want this form of automatic heating, if gas prices continue at present levels—far below coal and oil prices in many areas. The solution is to let the prices of all fuels seek their proper levels through the free play of competition. Only other alternative is government allocation of markets.

This is but one of the problems that will have to be tackled in an overall fuels investigation. Another is imported fueloil which the coal industry is blaming for its loss of markets along the East Coast. It is part of the broader picture of oil imports, generally. The place of synthetic fuels from coal and oil shale will be considered, too.

Another problem is that of the small refiner who, in the summer season, finds it difficult to dispose of all the fueloil he must make in meeting his gasoline demand. These refiners see their difficulties increased if natural gas competition levels out the fueloil demand curve while gasoline demand climbs sharply.

Ironically, it was the 1947-48 fueloil shortage (gone forever) that enabled Trans-Continental Gas Pipeline to be knocking at New England's door now. In approving this gas line into the New York area, FPC cited a congressional report that "there is an existing shortage of oil and such shortages will continue into the future." That was in 1948; it was incorrect. Trans-Continental, now seeking to extend its project into New England, probably will argue that gas is needed there to replace coal which is undependable because of recurrent strikes.

Philadelphia Burner Show Ready

AGENDA FORMULATED AND EXHIBIT SPACE NEARING COMPLETE SELL OUT

by
Bert Dunphy

WITH A PROGRAM of events arranged and nearly 100% of all exhibit space contracted for, prospects appear brighter than ever that the 27th Annual Convention and National Oil Heat Exposition, sponsored by Oil-Heat Institute of America, Inc., will surpass all other previous gatherings in attendance and interest. The Exposition and Convention are being held in Philadelphia from April 24 to 28.

Exhibited in the booths are to be the latest equipment and developments of the oilburner and allied industries, while the sessions planned for the Convention are concerned with discussing and facing the industry's most serious problems. The Exposition will be at the Commercial Museum, 34th and Curie Ave., the convention sessions and business meetings, with one exception, at the Ben Franklin Hotel, 9th and Chestnut Sts.

C. F. Curtin, secretary-treasurer of the Institute and Show Manager, revealed that 99.3% of all exhibit space had been reserved a month before the opening date and that the number of inquiries from eligible manufacturers indicated strongly that all space would be allotted before April 24. The Exposition, devoted to the advancement of the oilburning and allied industries, permits the showing of oilfired and allied equipment, including displays of research, manufacture, installation and use.

Left: *P. K. Addams, chairman, Accessory Div., OHI, who will be in charge of its annual meeting on April 24 and the annual Division luncheon on April 24.*

Right: *F. C. Haab, chairman, Distribution Div., OHI, presiding at the annual meeting on April 25 and who will supervise the Dealer Session on April 27.*

Registration for exhibitors will commence at the Commercial Museum on Saturday, Sunday and Monday, April 22, 23 and 24 from 10:00 A.M. to 4:00 P.M. and will commence for the trade on Monday, April 24 at 5:00 P.M. Public admission is without registration.

Actively cooperating with the Institute in preparing for the event is the Electrical Association of Philadelphia, through its Oil Heat Division. John Morrison, managing director of the Association, is directing the efforts of the group toward the success of the Exposition and Convention.

Because all signs point to a record attendance, all persons planning to attend are urged to apply immediately to the Convention and Visitors Bureau of Philadelphia, Architects Bldg., Philadelphia 3, for hotel accommodations.

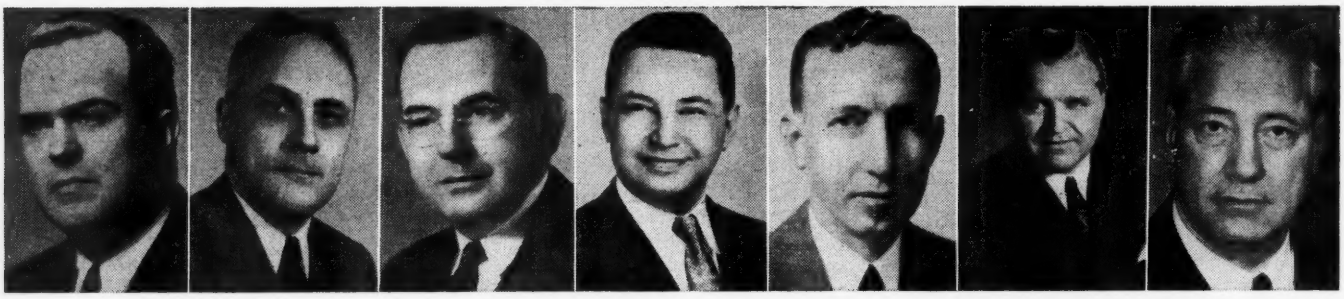
Monday, April 24—Opening Day—will see meetings of the Exposition Committee and the retiring OHI Board of Directors in the morning. During the afternoon there is to be held the annual meeting of the Accessory Division, presided over by Paul K. Addams, chairman of the Division, and a meeting of the retiring Board of Directors, Distribution Division.

The Exposition opens at 6:00 P.M. on the 24th, preceded by opening ceremonies. It closes at 10:00 P.M. and is open on each day thereafter from 1:00 P.M. to 10:00 P.M., except on Thursday, April 27, when a 5:00 P.M. closing is observed to permit attendance at the annual banquet and dance.

Business meetings continue on the morning and early afternoon of April 25, Institute Day, with Fred C. Haab, chairman, conducting the annual meeting of the Distribution Division at 9:00 A.M., followed by the annual meeting of the Institute, President A. T. Atwill, presiding. At noon the new board of directors, OHI, meet, followed early in the afternoon by a meeting of the new Distribution Division board.

The first of three open sessions, a discussion of engineering problems, is scheduled for Tuesday afternoon and will be held at the Commercial Museum, while the other two will convene at the Ben Franklin Hotel. The Engineering Session will be called to order by L. N. Hunter, vice president in charge of research, National Radiator Co., and chairman of the OHI Engineering Committee. Papers will be presented by G. E. Evans, Esso Standard Oil Co., on the subject of "Heating Oils of 1950"; H. K. Ricker, Gilbert & Barker Mfg. Co., "Adjusting Burners for Economy in 1950"; Carter Hamilton, A. P. Green Fire Brick Co., on "Refractory Combustion Chambers" and Peter Payson, Cru-

A. T. Atwill, *president, OHI, who will conduct its annual meeting on April 25 and act as chairman of the Industry Session, April 26.*



Left to right: *Chairman Hunter and speakers Evans, Ricker and Payson. Carter Hamilton also will deliver a paper.*

Left to right: *Industry Session speakers Gray, Hope and Casler.*

cible Steel Co. of America, "Stainless Steel Combustion Chambers." Also, C. H. Neiman, York-Shipley, Inc., will discuss briefly the Institute's Combustion Reference Test Unit and G. T. Kaufman, technical secretary, OHI, will report on the status of the forthcoming "Handbook of Oil Burning."

At the conclusion of the formal addresses, the meeting will be opened to general discussion and to the answering of questions from the floor, with the speakers and members of the Engineering Committee serving as a panel.

The first purely social event of the week is the annual dinner for members of the Old Timers' Club of the Oil Burner Industry, to be held during the evening of April 25. A hard-working committee has been engaged for some time in preparing a dinner and entertainment. (See item on next page.)

Industry Day, Wednesday, April 26, features an all-morning session, with talks relating to prime industry problems. A. T. Atwill, OHI president, is chairman of the session and will introduce Stanley C. Hope, president, Esso Standard Oil Co., whose address will cover the oil situation; Robert Gray, editor, FUELOIL & OIL HEAT, who is to talk on "Competitive Fuels" and L. A. Casler, OHI public relations counsel, whose subject is "How Are Your Sales Relations?"

At 1:00 P.M. on April 26, the annual luncheon of the Accessory Division is to be held, described as an important and interesting get-together. Paul K. Addams, Division chairman will preside. William C. Gordon, Jr., assistant to the director of the Research Department and assistant manager of the Commercial Research Division, The Curtis Publishing Company, Philadelphia, is appearing as speaker. "Marketing Oil Heat" will be the subject of his talk, material for which Mr. Gordon will assemble from his background and experience in marketing distribution. His activities include a term as president of the Philadelphia chapter, American Marketing Association and a national director of that association.

Following the precedent established at least year's Boston Show, Chapter Secretaries of Distribution Division local organizations plan another discussion of problems and interchange of information at a dinner meeting on April 26.

Another all-morning session marks Dealer Day on April 27, incorporating a well-rounded session, to conclude with a panel discussion. F. C. Haab, Chairman, Distribution Division, will preside and act as moderator of the forum.

C. W. Whitney, vice president, Petrol Terminal Corp., is scheduled as the first speaker on the subject, "Business Permanence Through Service and Installation"; T. A. Crawford, general manager, Timken Silent Automatic Division, will discuss "Managing Salesmen in 1950"; G. T. Kaufman, technical secretary, OHI of America, will speak on

Left: *William C. Gordon, Jr., principal speaker at the Accessory Division luncheon, April 26.*

Right: *W. A. Matheson, Toastmaster at the annual banquet, entertainment and dance, April 27.*

"Standards and Rules" and Arnold Michelson, vice president, Minneapolis-Honeywell Regulator Co., on "Accessories and Controls."

These speakers will answer questions at the conclusion of the session, with the following comprising the forum panel: Thomas Carson, division manager, Sherwood Bros., Baltimore; C. A. Breed, C. A. Breed Co., West Newton, Mass.; A. K. Reed, manager, Sinclair Oil Heat, Inc., Brooklyn; C. F. O'Malley, general service manager, Timken Silent Automatic Div., Jackson, Mich. and Jay J. Walsh, J. J. Walsh, Inc., Rochester.

Dealer Session

Left to right: *Speakers Whitney, Crawford, Kaufman, Michelson.*

The annual banquet, entertainment and dance, to be held during the evening of April 27, is to be preceded by the usual industry cocktail hour and will be up to the high standards of previous years for sociability and enjoyment. W. A. Matheson, general sales manager of Lustron Corp. and former president of OHI of America, will act as toastmaster and enforce the edict of no speeches.

No sessions or meetings have been planned for April 28. On that day the exposition hall will be opened at 1:00 P.M. until its final closing at 10:00 P.M.

An unusually fine program of entertainment for the ladies also has been arranged. On Tuesday afternoon, April 25, they will go to the Warwick for cocktails, hors d'oeuvres and will witness a fashion show. Beginning at 10:00 A.M. on Wednesday, April 26, the ladies will start a full day, during which they will visit the famous DuPont Longwood Gardens in Kennett Square, Pa. The tour of the Gardens will be interrupted for smorgasbord at the Kennett Square Country Club.

Old Timers' Jamboree Set for Bookbinder's

PHILADELPHIA'S famous historical restaurant, Old Original Bookbinder's at 125 Walnut St., is to be the location of the Old Timers' Jamboree on April 25, held by and for the Old Timers' Club of the Oil Burner Industry.

The Crystal Room and Blacksmith Shop are to be available for a cocktail hour starting at 6:00 P.M., to be followed by dinner at 7:30 P.M. in the Maine Woods Room.

A local committee, consisting of Fred C. Haab, Chip Stauffer, Harold C. Thorpe, John S. Turney, Bill Henninger, Lionel Jacobs, under the aegis of Curt Soderberg, has succeeded in arranging the entire evening for a cost of $7.50. To include, of course, a wonderful show abounding in pulchritude.

H. A. Maccubbin, secretary of the Club, points out that only Old Timers may attend and then only if they have paid their dues to date. No guests are allowed this year and each ticket will

(*Continued on page 74*)

Program

Exposition: Commercial Museum—Meeting: Ben Franklin Hotel

MONDAY, APRIL 24

9:00 A.M.—Show Committee Meeting.
10:00 A.M.—Retiring OHI Board Meeting.
1:30 P. M.—Annual Meeting, Accessory Division, P. K. Addams, Chairman.
6:00 P. M.—Commercial Museum—Exposition opens.
10:00 P. M.—Exposition closes.

TUESDAY, APRIL 25, "INSTITUTE DAY"

9:00 A.M.—Annual Meeting, Distribution Division, F. C. Haab, Chairman.
10:00 A.M.—Annual Meeting, OHI of America, A. T. Atwill, Chairman.
12:30 P. M.—New OHI Board Luncheon Meeting.
1:00 P. M.—Commercial Museum—Exposition opens.
2:30 P. M.—New Distribution Division Board Meeting.
2:30 P. M.—Commercial Museum — Engineering Session, L. N. Hunter, Chairman.
Speakers: G. E. Evans, Esso Standard Oil Co.: *"Heating Oils of 1950"*
H. K. Ricker, Gilbert & Barker Mfg. Co.: *"Adjusting Burners for Economy in 1950"*
Carter Hamilton, A. P. Green Fire Brick Co.: *"Refractory Combustion Chambers"*
Peter Payson, Crucible Steel Co. of America: *"Stainless Steel Combustion Chambers"*
3:30 P. M.—Ladies' Reception, Hotel Warwick.
7:30 P. M.—Annual Dinner and Entertainment, Old Timers' Club.
10:00 P. M.—Commercial Museum—Exposition closes.

WEDNESDAY, APRIL 26, "INDUSTRY DAY"

9:30 A.M.—Industry Session, A. T. Atwill, Chairman.
Speakers: Stanley C. Hope, president, Esso Standard Oil Co.: *"The Oil Situation"*
Robert Gray, editor, FUELOIL & OIL HEAT: *"Competitive Fuels"*
L. A. Casler, public relations counsel, OHI: *"How Are Your Sales Relations?"*
10:00 A.M.—Ladies' Entertainment—until 4:00 P.M.
1:00 P. M.—Accessory Division Luncheon, P. K. Addams, Chairman.
Speaker: William C. Gordon, Jr., assistant to the director, Research Dept., and assistant manager, Commercial Research Div., Curtis Publishing Co.: *"Marketing Oil Heat"*
1:00 P. M.—Commercial Museum—Exposition opens.
5:00 P. M.—Chapter Secretaries, Distribution Division—Dinner Meeting.
10:00 P. M.—Exposition closes.

THURSDAY, APRIL 27, "DEALER DAY"

9:30 A.M.—Dealer Session, F. C. Haab, Chairman.
Speakers: C. W. Whitney, vice president, Petrol Terminal Corp.: *"Business Permanence Through Service and Installation"*
T. A. Crawford, general manager, Timken Silent Automatic Div.: *"Managing Salesmen in 1950"*
G. T. Kaufman, technical secretary, OHI: *"Standards and Rules"*
Arnold Michelson, vice president, Minneapolis-Honeywell Regulator Co.: *"Accessories and Controls"*
Forum panel: Thomas Carson, Sherwood Bros., Baltimore, Md.
C. A. Breed, C. A. Breed Co., West Newton, Mass.
A. K. Reed, Sinclair Oil Heat, Inc., Brooklyn, N. Y.
C. F. O'Malley, Timken Silent Automatic Div., Jackson, Mich.
Jay J. Walsh, J. J. Walsh, Inc., Rochester, N. Y.
1:00 P. M.—Commercial Museum—Exposition opens.
5:00 P. M.—Exposition closes.
6:00 P. M.—General cocktail hour—Ben Franklin Hotel.
7:30 P. M.—Annual Banquet, Entertainment and Dance—Ben Franklin Hotel —W. A. Matheson, Toastmaster.

FRIDAY, APRIL 28

1:00 P. M.—Commercial Museum—Exposition opens.
10:00 P. M.—Exposition final closing.

List of Exhibitors*

National Oil Heat Exposition

Commercial Museum, Philadelphia

April 24-28, 1950

Space No.

Ace Engineering Co. (625)

Aldrich Co. (337-341)
Attending: P. M. Stephenson, E. L. Fox, B. Mulder.
Exhibiting: Series "B" boiler-burner units, Bantam standard and deluxe jacketed boiler-burner units, conversion oilburners.
New product: Deluxe Bantam boiler-burner unit.

Alliance Industries (143)
Attending: J. E. Sweeney, William McAdams, Howard T. White, D. P. Litzenberg, Herman Veit, Carl Haeussler, J. C. McCorkhill, H. E. Nickerson.
Exhibiting: Centrifugal pumps.

American Artisan (342)
Exhibiting: Publication.

American Radiator & Standard Sanitary Corp. (212)
Attending: H. C. Day, W. G. Senft, H. R. Trout, Paul W. Vieth, L. L. Henricks, W. F. Farley.
Exhibiting: Cutaway models of the Arcoliner, Winterglo and Oakmont oil boilers, Multifin and Sunrad radiators, baseboard radiant panels.

Anchor Division (619)
Attending: Bryant Doty, Ed Clifford, W. B. Stansbury, N. J. Griffin, F. W. Baxter.
Exhibiting: High pressure gun type oilburners and oilfired furnaces.
New Product: Anchor Shell head high pressure oilburner.

Applied Mechanics Co. (618)
Attending: H. J. G. Rudolf, Bernard J. Lawson.
Exhibiting: Galongage, International and Fil-Thru tank gauges.
New Product: International tank gauge.

Automatic Devices Co., Inc. (656)
Attending: H. T. Kucera, O. W. Dobson, E. Hartnett.
Exhibiting: Weather-Man and Weather-Chron weather-actuated controls.
New Product: Weather-Chron.

Automatic Products Co. (146-148)
Attending: R. W. Johnson, E. A. Vallee, B. Carroll, R. H. Ludwig, F. Marshall, A. L. Neva, N. Port; R. W. Sloane, D. Tmey.
Exhibiting: Oil control valves and accessories for vaporizing pot type burners.

Bacharach Industrial Instrument Co. (136)
Attending: Rudolf Ulrich, John W. Smith, B. H. Nunnally, Frederic S. Bartlett.
Exhibiting: Instruments for servicing and installation of heating equipment.
New Product: Utility Kit, combustion tester, with True-Spot smoke tester.

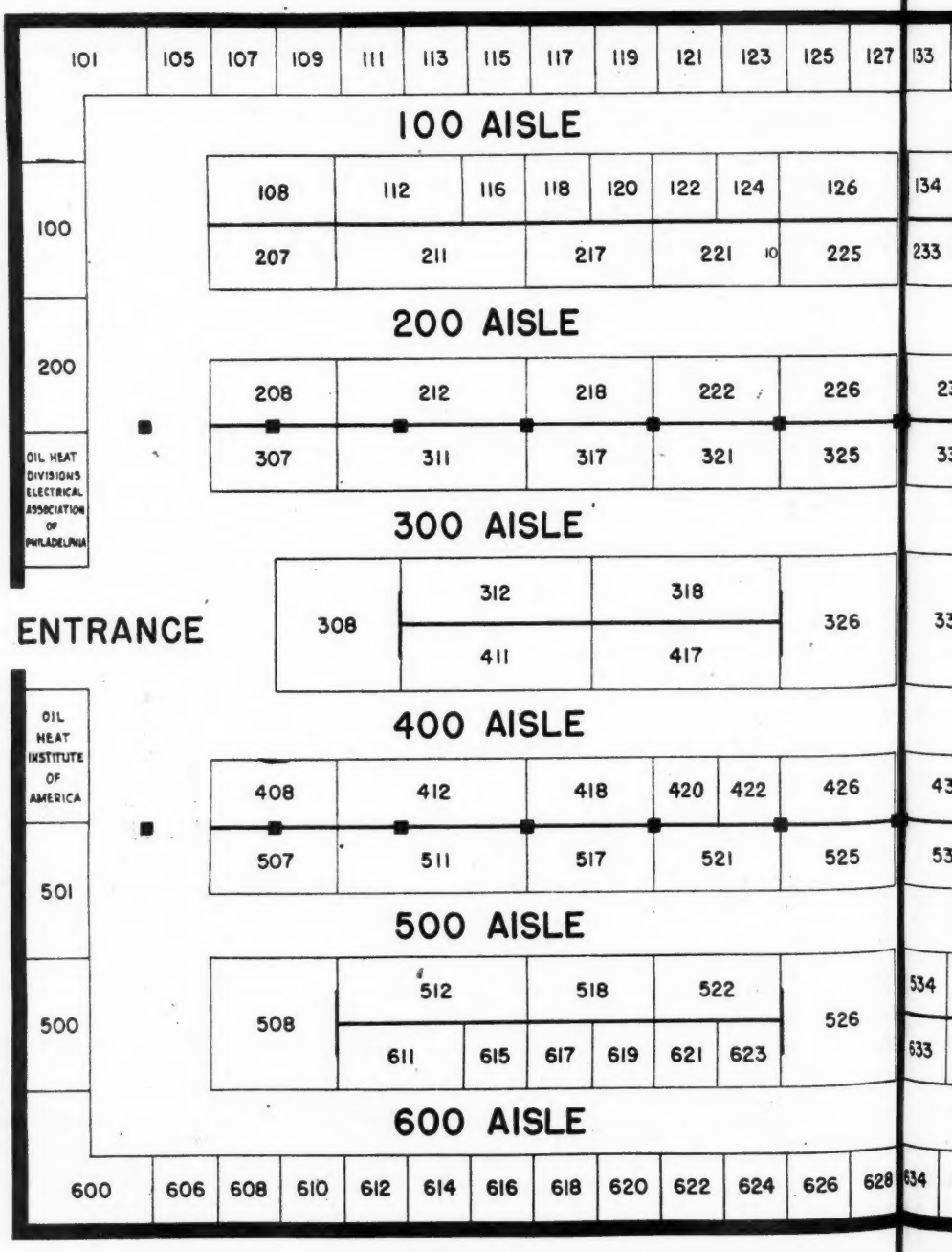
Bell & Gossett Co. (517)
Attending: R. E. Moore, C. E. Pullum, Ralph Patterson, Frank C. Hackett.
Exhibiting: Hydro-Flo heating specialties, including boosters, flo-control valves, Airtrol system, Monoflo fittings, relief and reducing valves.

Bethlehem Foundry & Machine Co. (333)
Attending: Clarence S. Dieter, Ray Dietz, James Meissner, Carl Wagner.
Exhibiting: Bethlehem Dynatherm, Crusade-a-Therm, conversion oilburners.
New Product: Crusade-a-Therm.

Boston Machine Works Co. (243-245)
Attending: Ralph L. Dennis, I. M. Nelson, H. C. Walters, A. Torrisi, Lars E. Schulein, L. E. Wood, W. J. Young, A. Putt, B. H. Nunnally.
Exhibiting: Boston Breese horizontal oilburner, Apthorp nozzles, Clearview oil tank gauges, Instant-Glo combustion chambers, Boston-Standard draft controls, Bosmaco-Apthorp nozzle service kits, Ideal nozzle extractors, Boston chrome steel baffles.
New Product: Boston-Standard draft controls.

Brown Products Co. (637)
Attending: A. Brown, P. Bunten, M. Portnoy, S. Schwartz, W. Flickinger, B. Oliver.
Exhibiting: Boiler-burner units, baseboard radiation, convectors, unit heaters.
New Products: Unit heaters and convectors.

Brundage Co. (533)
Attending: F. Ward Brundage, Miles F. Batterson, William A. Schlesinger, Paul S. Agey, H. F. Brundage.
Exhibiting: Vertical Air-Renewer, blower-filter unit, furnace blowers, exhausters.
New Products: Horizontal Air-Renewer.



*As of March 28.

Burnham Corp. (417)
Attending: V. A. Good, F. R. Brophy, A. A. Miller, J. J. Hogan, C. F. Bacon, H. R. Way, W. C. Heagy, W. H. Phillips.
Exhibiting: New Pacemaker boiler-burner unit, new Pacemaker oilburning boiler and Base-Ray radiant baseboards.
New Product: New Pacemaker unit with flange-mounted Burnham burner.

Century Engineering Corp. (412)
Attending: B. J. Lattner, C. D. Davenport, A. H. Mellott, Edward R. Dexter, Lowell Madden.
Exhibiting: Conversion oilburners, Crescent Super Heater and Convertible winter air conditioners, oilfired steel boilers and hot water heaters.
New Products: Convertible winter air conditioners, new style boilers and water heaters.

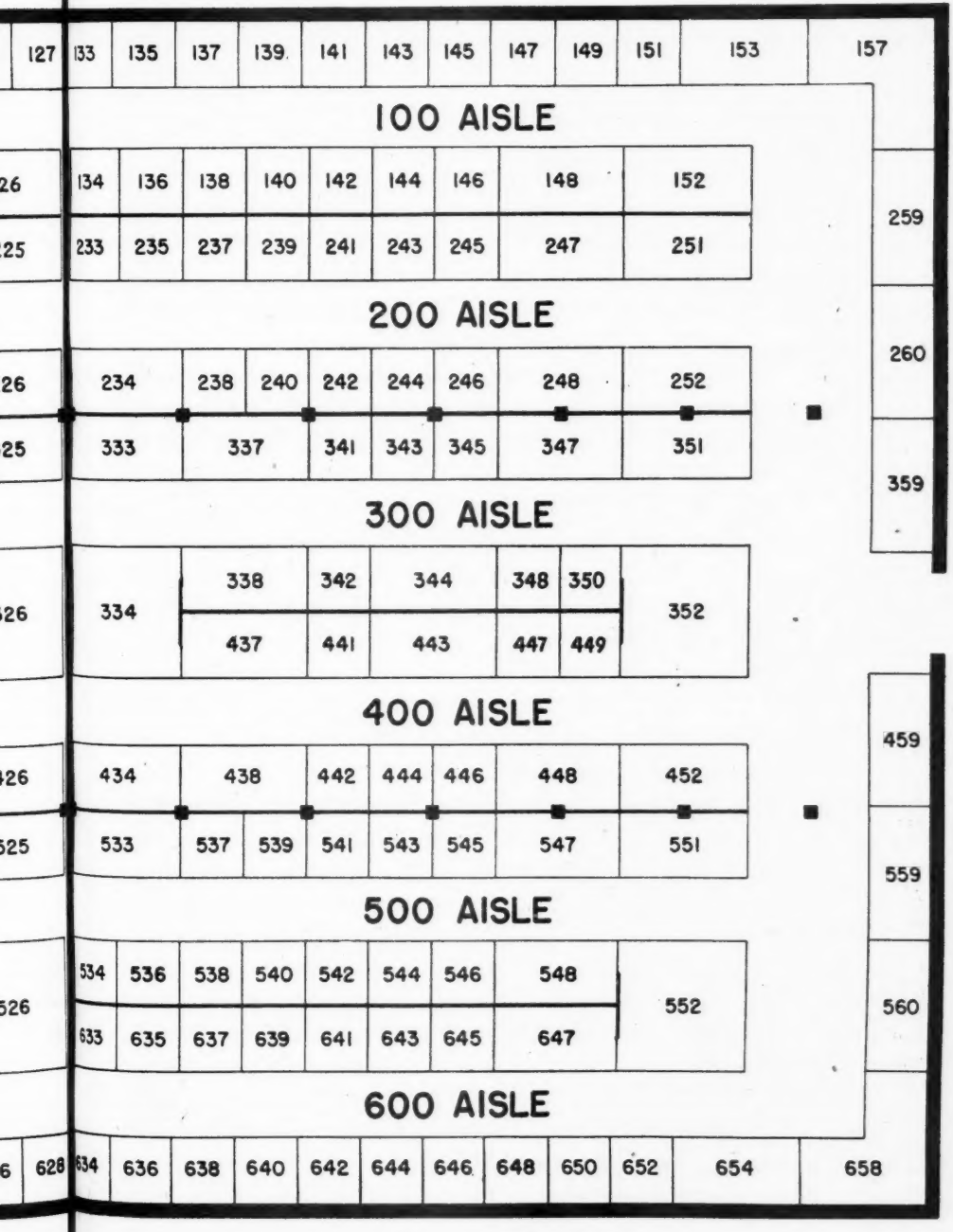
Cities Service Oil Co. (647)
Attending: A. E. Parker, J. J. McKee, P. Baker, N. B. Cook, J. McCusker, J. Roeger, J. L. Sheehan, C. Woolery, B. D. Wright.
Exhibiting: Cities Service fueloil.

Cleaver-Brooks Co. (526)
Attending: J. Verne Resek, Howard McCoy, Frank Wymbs, Wallace Bilbert, Nathan Feldman, Frank Wymbs, Jr.
Exhibiting: Hev-E-Oil burners, 15 and 25 gph capacity.
New Products: 1950 improved models.

Coleman Co. (135)
Attending: Albert M. Coleman, Earl L. Marks.
Exhibiting: Furnace, refractory and pipe fitting cements.

Cole-Sewell Engineering Co. (540)
Attending: I. E. Loring, E. W. Laudert, H. J. Sewell.
Exhibiting: Cole Draft Governors and Draft Korektors.

Columbia Boiler Co., Inc. (552)
Attending: H. J. Loughney, F. I. Boarman, J. J. Meade, J. Howley, D. Morris, J. Dixon.
Exhibiting: House heating and power boilers, oilburners.



Combustioneer Div. (251)
Attending: Georges Roudanez, Charles S. Brooks, R. O. Hedges, C. S. Jordan, J. W. Albright, V. C. Page, R. F. Kissell, Del Getz, Philo Chamberlain.
Exhibiting: Oilburners, oilfired furnaces, humidifiers.
New Products: Oilburners, oilfired furnaces.

Commercial Filters Corp. (537)
Attending: J. W. Chisholm, E. W. Dumler, H. C. Corwin, J. V. Calhoun, Robert Schadler, C. Fred Wagner III, Alan H. Forster.
Exhibiting: Fulflo filters and filter cartridges.

Corn Exchange National Bank & Trust Co. (617)
Attending: Frank C. Heebner, Robert A. Kennedy, William F. Lutz, Richard T. Taylor.
Exhibiting: Retail and wholesale financing plans for the oilheating industry.

Crotty Mfg. Corp. (543)
Attending: Michael C. Crotty, Edward Alstrom, Ralph Sibilla.
Exhibiting: Steel boilers.

Crown Engineering Corp. (141)
Exhibiting: Oilburner ignition components.

Delavan Mfg. Co. (351)
Attending: Nelson B. Delavan, David T. Morgenthaler, H. L. McNally, E. O. Olson.
Exhibiting: Oilburner nozzles and accessories, including Delavan sludge solvent.

Delco Appliance Division (500-501)
Attending: A. C. Freimann, J. F. Warren, S. J. Rice, R. T. Reddington, H. C. Rohr.
Exhibiting: Delco-Heat Conditionairs, conversion burners, boilers.
New Products: Steel boilers, Down-Flow Conditionaire, conversion burner.

Delta Heating Corp. (151)
Attending: B. Johnson, H. Schwaid, H. Lander, A. L. Nathan.
Exhibiting: Conversion oilburners, boiler and furnace-burner units, floor and wall furnaces.
New Products: Wall furnace, forced warm air unit.

Detroit Lubricator Co. (548)
Attending: E. J. Doucet, George E. Gage, W. H. Hohmeyer, H. L. Walker, R. M. Bard, N. L. Sell, George Yorgen, A. L. Fuller.
Exhibiting: Complete line of controls for pressure and vaporizing oilburners.
New Product: CRC 633 fuel transfer pump.

Dielectric Products Co. (113)
Attending: H. T. Carey, Phil Krueger.
Exhibiting: Ignition accessories and parts.

Dole Valve Co. (447)
Attending: H. H. Aronson, J. F. Lund, T. G. Colter, Mitchell Love, S. G. Phillips.
Exhibiting: Air and vacuum valves, water mixer, thermostatic air control.
New Products: Flow control for tankless heaters, Chamber-Vent, combination hot water air valve and air chamber.

Domestic Engineering Co. (217)
Exhibiting: Publication.

Eckhart Mfg. Co., Inc. (538)
Attending: Arnold Eckhart, Sr., Arnold Eckhart, Jr., Walter E. Eckhart, Victor S. Radlinski.
Exhibiting: Silent Korth oilburners.

Eddington Metal Specialty Co. (525)
Attending: Wesley Czarnecki, Stanley Czarnecki, Walter V. Czarnecki, Jr., Casimir M. Czarnecki, Vincent E. Devine, Walter B. Stamberger.
Exhibiting: Nozzles, filters, valves, adaptors, air cones, stabilizer, servicemen's kits, inspection mirrors, strainers.
New Products: Nozzle filter, polished stainless steel oval mirror.

Electric Furnace Man Co. (628)

Electrol Burner Mfg. Co., Inc. (234)
Attending: R. F. Andler, L. W. Schroeder, C. E. S. Bliss.
Exhibiting: Electrol Ball Flame oilburners and equipment.
New Product: Master air compensator.

Engineered Products Co. (149)

Enterprise Engine & Foundry Co. (542)
Attending: V. M. Douglas, J. Neil Brophy, N. Feldman.
Exhibiting: Horizontal rotary oilburners.
New Product: P. D. metering pump.

Fairbanks, Morse & Co. (344)
Attending: A. C. Traub, Ray Harnetiaux, Harold Neal, Bill Bowen, Tom Gillespie.
Exhibiting: Conversion oilburners, package boiler-burner units, utility and basement furnace units, horizontal suspended units.
New Product: Horizontal suspended units.

Federal Oil Burner Co., Inc. (121)
Attending: W. A. P. Henninger, A. A. Abrahams, Charles M. Pearce, William Lordan.
Exhibiting: Light and heavy oilburners.

Field Control Division (611)
Attending: C. W. Potter, Lee Beardsley, George Peterson, Fred Bartlett, Fay Kinne, Mark Acheson, Wayne Davis.
Exhibiting: Field and Scotty draft controls.
New Product: Scotty controls.

Fitzgibbons Boiler Co., Inc. (307-309)
Attending: Paul K. Addams, John R. Collette, Gilbert Nelligan, Ray C. Malone, E. N. Black III, Frank J. McCusker, W. C. Wetherstine, Jr.
Exhibiting: Fitzgibbons steel boilers.
New Products: #202 B, boiler-burner unit of new 200 series.

Fluid Heat Division (326)

Frankland Corp. (122)
Attending: J. Jeisel.
Exhibiting: Frankland Fuel Conservor.
New Product: Frankland Fuel Conservor.

Fueloil & Oil Heat (507)
Attending: Leon D. Becker, Robert Gray, A. G. Winkler, Lee Steedle, H. J. Hannigan, H. I. Dunphy, J. W. Schulz, Marshall Beuick.
Exhibiting: FUELOIL & OIL HEAT magazine, 1949-50 Buyers' Guide and Industry Directory, Beacon Boiler Reference Book, Selling Man, Basic Service Text for Pressure Oilburners, Oilheating Handbook. Reprint booklets: Low Pressure Burners, Installing the Domestic Oilburner, Heading Off Trouble, Oilheating Snags, Fueloil Handling, Vaporizing Burner Service, Reducing Fueloil Bills and oilheating marketing data.

Fuel Oil News (446)
Exhibiting: Publication.

General Automatic Products Corp. (512)
Attending: C. W. Schaefer, R. E. Lee, H. J. Hughes, H. F. Browning, C. E. Hight and A. W. Hamill.
Exhibiting: General Automatic heating equipment, Floorlevel baseboard radiation, De-Airator tank unit for hot water heating system.
New Product: De-Airator tank unit.

General Electric Co. Air Conditioning Dept. (547-551)
Attending: H. J. Wines, H. M. Brundage, F. H. Keswick, J. S. Shoemaker.
Exhibiting: Oilfired boilers and warm air furnaces, Air-Wall heating.

General Electric Co., Apparatus Dept. (239-241)

General Filters, Inc. (133)
Attending: Mrs. Grace Redner, Robert G. Gregory, Roland A. Redner.
Exhibiting: Improved models of fueloil filters.

General Fittings Co. (443)
Attending: H. F. Horton, J. J. Cotter, R. F. Hull, Vaughn Gooding, Jack Jones, C. A. Maine, W. G. Simms, Lynn Roberts.
Exhibiting: Indirect and tankless water heaters, industrial instantaneous water heaters, thermostatic mixing valves, water hammer silencers, Testite solder fittings, pipe unions.
New Product: Expansion tankless water heaters.

General Oil Heating Corp. (115)
Attending: William D. Brooks, Jr. and others.
Exhibiting: Genoco oilburners and boiler-burner units.

Guardian Products Corp. (645)
Attending: H. L. Forgash, R. O. Maldy, H. J. Prueter.
Exhibiting: Flexible couplings and oil valves.
New Products: Globe, anti-hum, fusible, radiant heat and hot water control valves.

Gulf Oil Corp. (318)
Attending: F. S. Taylor, T. Maher, R. Pollock, D. T. Shaver, F. A. Gibbons, L. J. Spingler, R. E. Jones, C. W. Letsch.
Exhibiting: General display on the theme "Oil Heat is Best."

Harbison-Walker Refractories Co. (359)
Attending: J. E. O'Reilly, James Gifford, James Mitchell, R. W. Highley, L. F. Wilson, John R. Hewitt, R. C. Straka, Jr., R. B. Jenner, R. R. Miller.
Exhibiting: Complete line, including fireclay, Silica, basic, insulating and acid-proof refractories, with emphasis on refractories for domestic oilburners.

Sid Harvey, Inc. (634-636)
Attending: Sid Harvey, Lawrence Harvey, Joseph R. Ziminski, Walter L. Bernard, Mathias P. Bernard, William C. Archer.
Exhibiting: Rebuilding and exchange service on fuel units, wall pumps, valves, motors, circulators, controls, relays. Time-saving oilburner service packages and modernization packages for obsolete burners.
New Products: Fuel-O-Meter distant-reading oil gauge, lock boxes for all types of thermostats, re-designed safety cut-off valves.

Harvey-Whipple, Inc. (511)
Attending: Ray G. Whipple, W. O. Harvey, T. A. Hogdon, W. C. Dee, T. M. Dailey, George Dunn, George Hoyer, Charles Reynolds, Leon Turner.
Exhibiting: Master Kraft electronic oilburners, boiler and furnace-burner units.
New Products: Model R low cost burner, model OSA burner, VCF suspended model furnace unit.

Heating Specialties Co. (153)
Attending: F. M. Wilhelm, F. M. Wilhelm, Jr., Harry C. Altenburg.
Exhibiting: Warm air furnaces.

Heil Co. (534-536, 633-635)
Attending: H. F. Pugh, W. E. Simons, George Hochstein, Karll Mould, John Barcley, Herman Wagen, D. E. Fricker.
Exhibiting: Conversion oilburners, Highboy and small winter air conditioners, boiler-burner unit.
New Product: Boiler-burner unit.

Herco Oil Burner Corp. (311)
Attending: H. H. Wilkinson, Harry R. Rohrer, John H. Stauffer, C. R. Herr.
Exhibiting: Domestic and commercial oilburners, forced warm air furnaces.

Hershey Machine & Foundry Co. (225)
Attending: C. H. Olandt, R. A. Haggerty, George Luders.
Exhibiting: Oilburners, boilers, furnaces.
New Products: Boilers, furnaces.

Hunter Mfg. Corp. (541)
Attending: R. O. Graffius, J. P. Young, E. T. Nahill, A. R. Hawkins, R. E. Brumbaugh, C. B. Wix, J. B. Dolman, R. H. Albertus, J. W. Albright.
Exhibiting: Hunter modified deluxe and disappearing screen aluminum combination windows.

Iron Fireman Corp. (308)
Attending: C. T. Burg, E. C. Webb, Dale Wylie, Howard M. Cutshaw, Stewart H. Kibbe, Joseph Porter, Peter Storti, R. C. Wright, C. D. Carter, L. N. Zimmerman, C. B. McKernon.
Exhibiting: Domestic, commercial and industrial oilburners, domestic boiler units and winter air conditioner furnaces.
New Porducts: Domestic Vortex and gun type burners; industrial rotary burners with oil volumeter.

Jackson & Church Co. (615)
Attending: J. A. Bouffard, F. Young, B. Hughes, C. J. Low.
Exhibiting: Oilfired suspended units and Budget furnace.
New Product: Budget furnace.

Jefferson Electric Co. (343)
Attending: C. T. Harnett, D. S. Hevner.
Exhibiting: Oilburner ignition transformers.

S. T. Johnson Co. (612-614-616)
Attending: J. C. Johnson, R. P. Johnston, W. Thoms, W. Lees.
Exhibiting: Residential, commercial and industrial oilburners, water heater, boiler-burner units.
New Products: 500,000 to 800,000 Btu boiler-burner units.

Kaustine Co., Inc. (224)
Attending: J. B. Mollnow, Sr., J. B. Mollnow, Jr., Leon Kunicky, Russell Priene.
Exhibiting: Highboy and Lowboy furnace-burner units.
New Products: 095HB, 95,000 Btu and 0110, 110,000 Btu output furnace-burner units.

Kent Co., Inc. (134)
Attending: P. V. Hughes, P. R. Young, J. Hughes, E. P. Wittschiebe, J. O'Brien, S. Ruch.
Exhibiting: Kent double suction furnace and boiler flue cleaner, tubular boiler flue cleaner tool.
New Product: Tubular boiler flue cleaner tool.

Ko-Z-Aire, Inc. (544)
Attending: J. Hildebidle, R. C. McDowell, A. A. Marks.
Exhibiting: Warm air furnaces.
New Products: Models 90-OV, 90-OHB, 95-OG.

H. C. Little Burner Co., Inc. (138)

Lynn Products Co. (623)
Attending: E. K. Priest, L. H. St. Jean.
Exhibiting: Power oilburners and oilburning equipment.

Manville Boiler Co. (144)
Attending: B. Mandelburg, R. P. Babcock.
Exhibiting: Steel heating boilers.

Marietta Metal Products Corp. (448)

Master Plumbing & Heating Contractor (240)
Exhibiting: Publication.

May Oil Burner Division (411)
Attending: C. R. Collins, J. O. Miller, E. R. Schuelke, J. E. Conners.
Exhibiting: Conversion oilburners, boiler and furnace-burner units.
New Products: Furnace-burner units.

McDonnell & Miller, Inc. (317)

Mercoid Corp. (438)
Attending: H. Courteol, I. E. McCabe, J. W. Owens, W. L. Colterjohn, R. F. Fisher, W. K. Stauffer, P. J. Provost, F. W. Ayer, K. Reiley, J. J. Byrne, F. C. Hayes, J. A. Johnson, J. F. McCauley.
Exhibiting: Automatic controlling devices.

Metromatic Mfg. Co. (112-114-116)
Attending: Fred DeAngelo, Robert W. Pyne, Frank Bellevue, Wendell Austin, William R. Landmesser, Albert Axtman, F. E. Douglas.
Exhibiting: Metromatic conversion oilburners, winter air conditioner with built-in tank for domestic hot water supply.

R. E. Michel Co. (238)
Attending: V. V. Michel, Paul G. Tolson.
Exhibiting: Supplies and parts used in servicing and installing oilburners.

Minneapolis-Honeywell Regulator Co. (600–610)
Attending: T. McDonald, A. H. Lockrae, H. E. Chapler, K. L. Wilson, T. A. Reed, A. Michelson, H. E. Williams, C. C. Cochran, D. J. Peterson.
Exhibiting: Electric and electronic controls for domestic and industrial oilburners, furnaces and boilers.
New Product: "Comfort" thermostat line.

Monarch Mfg. Works, Inc. (441)
Attending: T. W. Murphy, E. B. Frame, J. M. Carroll, R. F. Stone, J. C. Underwood.
Exhibiting: Oilburner nozzles, combustion heads, valves, strainers.

Morse-Smith-Morse, Inc. (444)
Attending: Robert E. Chase, John C. Dieselman.
Exhibiting: Firomatic fusible oil valves, lever valves, oil filters, vent caps, tank gauges and thermal switches.
New Products: Fusible valves for space heaters and kitchen ranges.

National Airoil Burner Co. (211)
Attending: Walter A. Horko, R. W. Reamer, D. D. Delaney, G. M. Bitterlich.
Exhibiting: Industrial oilburners and accompanying equipment.

National Radiator Co. (418)
Attending: L. N. Hunter, C. M. Baumgardner, J. W. LeRoy, J. W. Hall, K. O. Schlentner, Raymond S. Doherty, P. J. Bracken, J. H. Johnston, C. J. Ferris, C. A. Piez, F. R. Kriebel.
Exhibiting: National Packet, Art Baseboard and Art Convector.
New Products: National Packet and Art Baseboard.

National Tank Cleaning Co. (152)

Norge Heat Division (259–260)
Attending: C. S. Davis, Jr., L. Groff, J. M. McNamara, G. R. Neumann, J. W. Oswald, L. J. Studnicky, M. A. Straub.
Exhibiting: "Stowaway," Hi-Boy and Lo-Boy winter air conditioners, conversion oilburners, floor furnaces and water heaters.
New Products: "Stowaway," Hi-Boy, Lo-Boy, F600 series atomizing oilburning winter air conditioners.

Oil Equipment Laboratories, Inc. (237)
Attending: John M. Wittke.
Exhibiting: Rotoflame oilburners, boiler-burner units, warm air furnaces.

Oil Equipment Mfg. Corp. (620)
Attending: Daniel Kaufman, Arnold J. Alderman, Irving Marinoff.
Exhibiting: King gauges, Inconel combustion chambers, storage tank fittings, duplex tank bushing, barrel pumps, fuel unit tester.
New Products: Barrel pumps, new style vent caps.

Oil Heat Divisions, Electrical Association of Philadelphia (300)

Oil-Heat Institute of America, Inc. (400)

Penn Electric Switch Co. (459)
Attending: Carlos Morgan, A. L. Rubel, R. V. Clark, A. W. Barr, E. B. Maire, R. H. Luscombe, M. E. Henning, H. C. Shilling, James G. Moravec, E. A. Price, F. X. Fessler.
Exhibiting: Boiler water level controls, Humidistat, line starters, oilburner stack relays, solenoid valve, oilburner stack switches, hot water and warm air temperature controls, room thermostats.
New Products: Burner-mounted primary relay with separate combustion detector requiring no line voltage wiring.

Perfex Corp. (312)
Attending: C. E. Lewis, V. P. Black, Allen Butler, James McGuire, Chris Jensen, Jr., Douglas DeVos, W. A. Matheson, Jr., Paul Neess.
Exhibiting: Domestic and industrial heating controls.

Preferred Utilities Mfg. Corp. (105–7–9)
Attending: R. S. Bonn, G. W. Bonn, W. H. Bonn, J. S. Kaplan, M. Sherman, B. K. Breed.
Exhibiting: Preferred unit steam generator, horizontal rotary oilburner, Draft-A-Justor.

Price Fireplace Heater & Tank Corp. (545)
Attending: Robert L. Wright, H. Gordon Miller.
Exhibiting: Fueloil storage tanks.

Quaker Mfg. Co. (408)
Attending: A. T. Atwill, O. J. Long, L. J. Lofgren, J. B. Mathis.
Exhibiting: Oil space heaters.

Quality Specialty Co., Inc. (246)
Attending: Carl Jay, Bernard Jay, Jules Jay, Charles H. Jay.
Exhibiting: Flow valves, circulators, combination fill and vent universal fueloil receptacle, one line supply tees, flue fueloil fills, magnesium and brass products.

Quiet Automatic Burner Corp (637)
Attending: Messrs. G. J. Kaveny, Noll, Baumann, Hill, Prince, Nolan.
Exhibiting: Oilburners, oilburning boilers, winter air conditioners.
New Products: #70 air conditioning furnace, VR320 steel oil furnaces.

Quiet Heet Mfg. Corp. (242)
Attending: E. M. Peters, S. L. Peters.
Exhibiting: Oilburners, window-type cooling units.

R C S Tool Sales Corp. (124)
Attending: Francis S. Russell, Dale D. Davis, E. J. Tully, T. M. Sweeney, E. R. Meyers.
Exhibiting: Super-Saw, reciprocating power saw attachment for electric drill.

Radiant Utilities Corp. (621)
Attending: Jacob G. Goldberg, Arthur A. Marcus, Joseph Bloom, Julius S. Goldberg.
Exhibiting: Conversion oilburners.
New Product: Adjustable sliding flange.

Rajah Co. (111)
Attending: Robert A. Bell, Ernest W. Law.
Exhibiting: Rajah terminals and tools.

Ray Oil Burner Co. (108)
Attending: Russell C. Westover, Jr., Carl Draper.
Exhibiting: Automatic horizontal rotary oilburner, combination rotary gas-oilburner, steam turbine burner, combination pressure type gas-oilburner.

Rochester Mfg. Co. (348)
Attending: C. L. Hastings, William J. Debler, Daniel Freedman, Alfred Greulich, Samuel Skner, William Chase, John W. Kershaw.
Exhibiting: Direct reading and remote indicating oil tank gauges, oilburner test kit, circulation air control test kit.
New Product: Circulation air control test kit.

S. O. S. Products Co., Inc. (125)
Attending: I. S. Pryor, G. G. French, William Gergmeister, S. S. Schwartz.
Exhibiting: Complete line of chemical and refractory products for the oilburner industry.
New Product: "Economizer" combustion chamber.

Scully Signal Co. (200)
Attending: Frank P. Scully, Carl A. Goddard, Edward Mathey, Arthur F. Gray, William G. Rowell.
Exhibiting: The Ventalarm signal, Ventalarm gauges, Remotamatic control, FasFill connectors.
New Products, Ventalarm gauges, VGA, VGB.

Shell Oil Co. (452)
Attending: J. L. Minner, C. M. Mockler.
Exhibiting: Shell fueloil.

Silent Flame Mfg. Co. (546)
Attending: Murray Walshin, Martin Walshin, William Singer, Charles Fuchs.
Exhibiting: Conversion oilburners.
New Product: Model G-50 sump pump.

Silent Glow Oil Burner Corp. (559-560)
Attending: R. M. Sherman, H. S. Sherman, H. P. Riordan, R. W. Secor, F. Quattromani, B. F. Filieo.
Exhibiting: Conversion oilburners.

Skuttle Mfg. Co. (137)
Attending: George T. Greulich, E. A. Wilson, Jr., Vincent Devine, Les Cotherman.
Exhibiting: Automatic humidifiers for warm air furnaces, steam and hot water systems, draft controls.
New Product: 200-S Vapomaster humidifier for steam and hot water systems.

H. B. Smith Co. (518)
Attending: W. M. Todd, Guy Smith, Harry J. Walther, W. C. Jackson, William Todd, J. E. Reed.
Exhibiting: Smith-Mills #100 and #200 boiler-burner units, "Reliance" boiler.
New Product: Smith-Mills #200 boiler-burner unit.

Sparkler Mfg. Co. (622)
Attending: Fred Leuthesser.
Exhibiting: Fueloil filters.

Sun-Ray Burner Mfg. Corp. (422–426)
Attending: Gabe M. Marin, Alfred Metzger, Alfred Luft, Martin J. Sones.
Exhibiting: High pressure gun type burners, with models featuring the Shell combustion head.

Sundstrand Engineering Co. (442)
Attending: R. H. Gustafson, E. M. Smith.
Exhibiting: Sundstrand oilburners.

Sundstrand Hydraulic Div. (233–235)
Attending: C. W. Lang, L. H. Schuette, C. L. Sadler.
Exhibiting: Single and two stage fuel units and pumps for domestic high pressure oilburners, solenoid-operated units.
New Product: Solenoid models.

Super Electric Products Corp. (420)
Attending: Max J. Sarver, Charles Rapiport, Henry Winston, George Eulo.
Exhibiting: Oilburner ignition transformers.

Swirling Heat Corp. (624)
Attending: R. D. Schoenwetter, Kenneth F. Moffett, George K. Kelley.
Exhibiting: Models A-1 and A-2 oilburners.
New Product: Model A-1.

Taco Heaters, Inc. (218)
Attending: J. Balter, J. H. White, J. R. Murphy, E. T. Houlihan, R. T. Schoerner, R. H. Chaffee.
Exhibiting: Tankless and storage type indirect heaters, circulators, hot water air valves, one pipe fittings, reducing and relief valves, flow control valves, panel heating controls, tempering valves.

Thatcher Furnace Co. (508)
Attending: R. M. Cook, M. C. Beard, D. J. Turner, E. P. Short, J. P. Murray, J. F. Ahearn, J. Leeson, S. J. Cheney, J. Kusarik, J. Keefe, J. E. Price.
Exhibiting: Oilmaster boiler, conversion oilburners, oilfired winter air conditioners.
New Products: 492 series, 501 Hi-Boy and 503 Hi-Boy Counterflow oilfired winter air conditioners.

Thermobloc Division (345)
Attending: E. Tarnoff, F. Cole, H. M. Parent, and local representatives.
Exhibiting: Self-contained, direct-fired warm air heaters.
New Product: "Silent" direct-fired heater.

H. A. Thrush & Co. (100)
Attending: George H. Fox, E. D. Noland, G. O. Johnson, L. D. Grose, W. J. Johnson, R. E. Clegg, T. E. Fahy.
Exhibiting: Complete line of hot water heating specialties.
New Products: Horizontal circulator, flow control valve with vent tube.

Tide Water Associated Oil Co. (123)
Attending: F. W. Clark.
Exhibiting: Tydol Silent Knight oilburner.

Timken Silent Automatic Division (350–352–449)
Attending: Factory personnel: Messrs. Crawford, Marberry, Cooper. Regional managers: Messrs. Robbins, Jordan, McCarthy. District sales managers: Messrs. Ralphs, Watres, Gruher, Fahl, Dwyer, Craig.
Exhibiting: Conversion oilburners, boiler and furnace-burner units, water heaters.
New Products: Models OBC-110, -150, -205 boiler-burner units.

Toridheet Division (321–325)
Attending: W. J. Smith, R. J. Lucas, D. W. Rouse, L. F. Dienst, J. A. Lappin, J. F. Donnelly, Leslie D. Clough.
Exhibiting: Rotary wall flame and gun type conversion oilburners, rotary and gun fired boilers and winter air conditioners.
New Product: Gun fired, low-boy winter air conditioner for small homes.

Torrington Mfg. Co. (207)
Attending: Donald G. Leslie, Roger T. Lyman, Archibald C. Doty, Jr., Michael J. Fabbri.
Exhibiting: Airotor blower wheels, Airistocrat fan blades.
New Product: "Freewheeling" Airotor.

Tru-Heet Co. (252)
Attending: Henry Wurfel, Jr., Norman Gater, B. Roy Snavely.
Exhibiting: Oilburners, boiler units and warm air furnaces.
New Products: Boiler and furnace units.

Turb-O-Tube Furnace, Inc. (120)
Attending: D. Haynes, J. B. W. Carmichael.
Exhibiting: Oilfired floor and suspended furnaces.
New Product: 1950 model.

Tuthill Pump Co. (626)
Attending: W. J. Wagner, H. T. Kessler, E. W. Chapman.
Exhibiting: Oilburner pumps and fuel units.

U. S. Machine Corp. (222–226)
Attending: Claude A. Potts, Walter E. Blake, Philip C. Kosch, Carl L. Riddle, J. Wesley Stevenson, J. M. Delaney, Maurice J. Smith, William Gaskell, Jr.
Exhibiting: Winkler domestic high and low pressure oilburners, rotary cup burners, oilfired boilers, furnaces and wall furnaces.
New Products: Rotary cup oilburners, oilfired boilers, furnaces and wall furnaces.

United States Radiator Corp. (522)
Attending: D. E. Welsh, Joe Ray, J. R. Knox, M. L. Judd, T. R. Byrley.
Exhibiting: U. S. radiant baseboard, U. S. 12 oil boiler-burner unit, oilfired winter air conditioner.
New Product: U. S. 12 oil boiler-burner unit.

V & E Products, Inc. (117–119)
Attending: Lionel L. Jacobs, Walter J. Moriarty, H. A. Maccubbin.
Exhibiting: Wall flame and water tube boilers.

Viking Mfg. Corp. (643)
Attending: H. S. Frasher, W. P. Loer, M. C. Cameron, L. J. Morton.
Exhibiting: "Hi-Boy" and "Lo-Boy" winter air conditioners, Flatpak preformed aluminum ductwork.

Waterfilm Boilers, Inc. (208)
Attending: A. R. Hanson, E. Wodecka, J. Sweeny, L. McAdams.
Exhibiting: Steel heating boilers.
New Product: Venko #1 packaged unit.

Watts Regulator Co. (221)
Attending: George B. Horne, Cyrus S. Gates, Ray D. Bitzer.
Exhibiting: Safety valves and controls.
New Product: #74 ASME pop safety relief valve.

Warren Webster & Co. (521)
Attending: H. F. Marshall, L. H. Plum, D. F. Bennett, Karl Rugart.
Exhibiting: Baseboard heating, Walvector radiation, type CF-2 hot water heating controls, boiler protector.
New Products: Baseboard heating, Walvector.

Webster Electric Co. (434)
Attending: S. A. Loeb, A. C. Kleckner, P. G. Crewe, B. T. Wiechers, D. J. Munroe, H. C. Osborne, L. S. Ehrich, Jr., J. H. Lahey, H. B. Hastings, Jr.
Exhibiting: Thermodrive, instantaneous cutoff fuel unit, ignition transformers.
New Product: New features in ignition transformer design.

White-Rodgers Electric Co. (127)

The Will-Burt Company (118)
Attending: William B. Baer, J. R. Furth.
Exhibiting: Oilburning boiler, pressure type oilburners.
New Products: Oilburning boiler, pressure type oilburners.

Williams Oil-O-Matic Division (334, 338, 437)
Attending: W. L. Sneltjes, H. H. Hackett, W. E. Pflieger, R. A. Davis, N. A. Plamer, L. G. Brown, Frank Brown, S. J. Dowling, J. H. Skaggs, H. H. Falkingham, R. W. Holstrom, C. Allen Fisk, W. C. Barrett, C. G. Branch, J. E. Nesbitt, W. K. Johnston, Joseph Hackett, R. G. Pinkerton, E. H. Davison, J. H. Shoemaker.
Exhibiting: Low and Hi-Pressure conversion oilburners, winter air conditioners, boiler-burner units.
New Products: Model 70A and model 1-S, suspension model, winter air conditioners, B-series steel boiler-burner units.

York-Shipley, Inc. (638 to 654)
Attending: S. H. Shipley, David Wepman, George Frank, L. H. Brenneman, W. W. Kane and others.
Exhibiting: York-Heat boilers, furnaces and burners, York Power industrial burners, Steam-Pak steam generators.
New Products: Levittowner radiant heat boiler-burner unit, Lookout steam generator.

(*Continued from page 69*)

identify the bearer personally.

To save time and avoid confusion, all members who plan to attend are urged to write the Secretary, Old Timers' Club, 4616 N. Beacon St., Chicago 40, indicate whether a steak or lobster dinner is preferred and enclose a check for the dinner ticket and dues, if owed.

A Visit With FOA-5X

INDUSTRY RESPONSE TO ITS INTRODUCTION IS SIGNIFICANT

by

Henry D. Crane

FOA-5X, as announced by Shell early this winter, means Fuel Oil Additive, Fifth Experiment . . . it's a laboratory identification symbol carried forward into a marketing name, an advertising catch-word. This product when blended into No. 2 fueloil was designed to eliminate screen and nozzle clogging in oilburners, one of the most aggravating service causes encountered in many parts of the country. A day spent with Shell men at the Sewaren laboratory and in oil customers' basements showed that the claims made for this additive are accurate.

Excessive screen and nozzle clogging has been pretty much a postwar problem. There were such troubles in the earlier years but not in great numbers. In those prewar years distillate heating oils were straight run or mildly cracked and easy to handle in the average burner. Moreover, they were sold by refiners at a losing price, since they were a by-product of gasoline manufacture; any price was better than none, and coal was on the whole a cheap competitor.

The war and subsequent years have altered that picture materially. The fast rise in oilheating popularity has meant that heating oil is ever becoming a larger share of total oil demands. Then the wartime aviation needs encouraged refiners to introduce much deeper cracking methods that would turn out more aviation gasoline and other high volatile products at the expense of some desirable characteristics in the lower segments of the barrel, particularly heating oil.

The so-called "catalytic" heating oils supplied by most large refiners in recent years have contained more actual heat per gallon but are sometimes more difficult to burn, and in numerous instances have brought about sludge formation, with resulting line, screen and nozzle clogging.

During ten years Shell has made five major attempts to find a fueloil additive to clear up this difficulty. Its engineers and chemists are now fairly happy about 5X after three years of laboratory, refinery and field tests.

Visiting the laboratory at Sewaren, N. J., in early March brought an opportunity to watch some interesting demonstrations. The first and simplest was a pour test, conducted with the aid of specially built apparatus. On twin stands a half gallon of Shell No. 2 oil was allowed to run by gravity through 150 mesh screens, the one stand using an untreated fueloil and the other using the same oil but with 1/2000 part of FOA-5X stirred into the batch. The gravity flow and fine screen were representative of the more difficult conditions encountered in the field. As the screens clogged the rate of flow slowed down with the results shown in the following table:

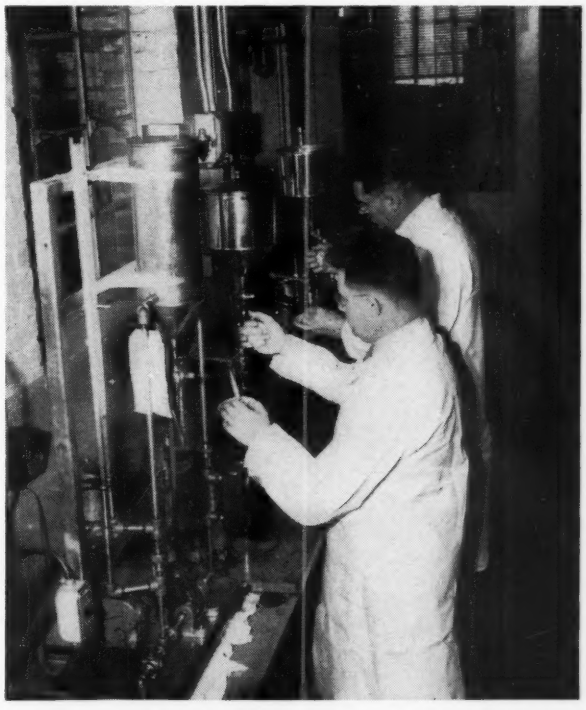
	Without FOA-5X (gph)	*With FOA-5X (gph)*
Flow rate at start	1.93	2.06
After five min.	1.51	2.02
Ten min.	1.16	1.98
Finished at 13 min.	..	1.95
at 20 min.	0.93	..
Drop in flow rate	52%	6%

The next experiment represented more normal field conditions, wherein a bench scale was used to measure varying pressure drops through a 100 mesh screen and using a positive displacement pump. After 16 hours pumping of untreated Shell No. 2 oil there was a pressure drop through the screen of 155 millimeters (oil). The question then was whether the introduction of FOA-5X would clear up that screen and reduce the pressure drop. The additive was stirred into the oil tank, again in 1/2000 proportion, and the two pressure columns checked at intervals. As the screen cleared up the pressure drop through it naturally fell as shown in these figures:

15 min.	81 mm	1½ hrs.	49 mm
30 min.	67 mm	2 hrs.	41 mm
45 min.	60 mm	7 hrs.	20 mm
1 hr.	55 mm	(practical minimum)	

This demonstration showed that the additive will dissolve sludge from a screen, although of course in this test it was newly formed sludge.

During the day while some of these lab. experiments were in work, visits were made to some homes of Shell customers. Two of these homes were being used for comparative tests of screen conditions with treated and untreated oil. The first was in Cranford, N. J., and the burner was firing the untreated oil. The screen had been cleaned last October 4. Since then approximately 800 gallons of No. 2 oil had passed through it. On our



Dr. H. R. Heiple, *in foreground, and* **L. H. Ventres** *operate the twin testing apparatus. Not shown in any of the photos but in charge of the Sewaren Lab is* **E. B. Glendenning.**

visit the screen was taken out for the first time. It was clogged enough that it held its full capacity in oil as it was lifted into the air—just like a drinking cup of water.

The next stop was in Westfield, N. J., where the other half of this particular test was in process. On the same October day the screen here had been cleaned and since then about 700 gallons of oil went through it. This oil had been treated with the additive. When the screen was raised from its position it was clean and retained no oil, scarcely enough for a drip.

E. B. Glendenning, who heads Shell's lab, was asked if this new oil treatment did away with the necessity for filters. In his opinion filters are just as desirable as ever and he emphasizes that the cartridges should be renewed each year, since they stop rust particles and other harmful solid matter that gets into oil lines.

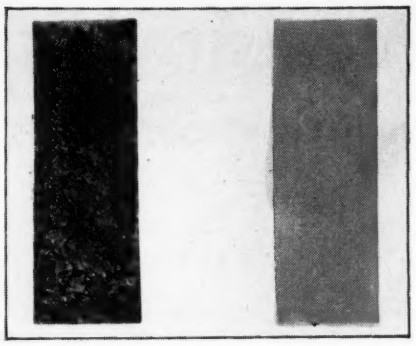
For results of various field tests, here are paragraphs from a report to the Company by W. A. Sullivan, senior development engineer:

"The first field tests were conducted in a Midwestern city from which a large number of complaints of strainer clogging had been received. Eight representative installations were selected at random and FOA was added directly to the tanks of seven of those which had been experiencing especially severe strainer clogging; one installation without FOA was retained as a control. In half of the installations, including the control installations, the screens were cleaned at the beginning of the test period; in the remainder the screens were simply removed to observe their condition and replaced without cleaning. Data obtained in these tests are presented in Table A. The installation to which no FOA was added was definitely beginning to plug with sludge at the end of the five-week test period, whereas the screens in all the installations to which FOA was supplied were clean.

"Later, when a serious outbreak of screen clogging complaints occurred in one of the eastern divisions, FOA was made available to the local marketing personnel for use in individual customers' tanks; its use resulted in an immediate decrease in the incidence of the complaints. The only exceptions were a few installations, while further investigation showed the presence of abnormally large quantities of water and sludge in the bottoms of the tanks. It is worth noting that the fuels involved in these two series of tests were from different refineries and differed markedly in composition.

"The successful application of FOA in these instances led to its use at the terminal level in all the No. 2 fueloil distributed in an entire marketing division. Use of FOA on this basis was begun in the middle of a heating season and within a week after distribution of the additive-containing oil was started the number of complaints had begun to drop off. By the end of two months only very few complaints were being received. Unfortunately the supply of additive was limited, and it was necessary before the end of the heating season to resume delivery of additive-free oil. Within a short time the influx of strainer clogging complaints was resumed. That the decrease in incidence of screen clogging with initiation of the use of FOA was not accidental was demonstrated by the fact that the same result was observed in another marketing division during the same heating season when the addition of FOA to fueloil distributed in that division was begun.

W. A. Sullivan, *senior development engineer, watches Dr. Heiple lift a clean strainer at the Westfield house.*



FOA-5X *as a rust preventative. These two sandblasted tank steel strips were submerged in oil to which had been added 1% water, for seven weeks. The right hand strip was in oil treated with the additive, shows no rust.*

"A notable example of the effectiveness of the additive was shown by an occurrence in one division during the first part of a heating season. All terminals and depots, except one, in this division were supplied with fueloil to which FOA had been added at the terminal level. At approximately the midpoint of the season, representative installations were chosen at random and inspected. In the areas served with additive-containing oil the strainers were free of sludge and exhibited, at most, a slight discoloration. On the other hand, the screens in installations supplied with uninhibited fuel from the same refineries were completely covered with a soft brown sludge. The difference in the screen's appearance was so striking that the addition of FOA at this depot was immediately undertaken and continued to all fueloil distributed in this area during the remaining winter and spring months, thus undoubtedly averting grave difficulties.

"During the following season the same contrast was observed on a much broader basis: all fuel marketed north of Maryland contained FOA, while that in Maryland and the southern states was

TABLE A

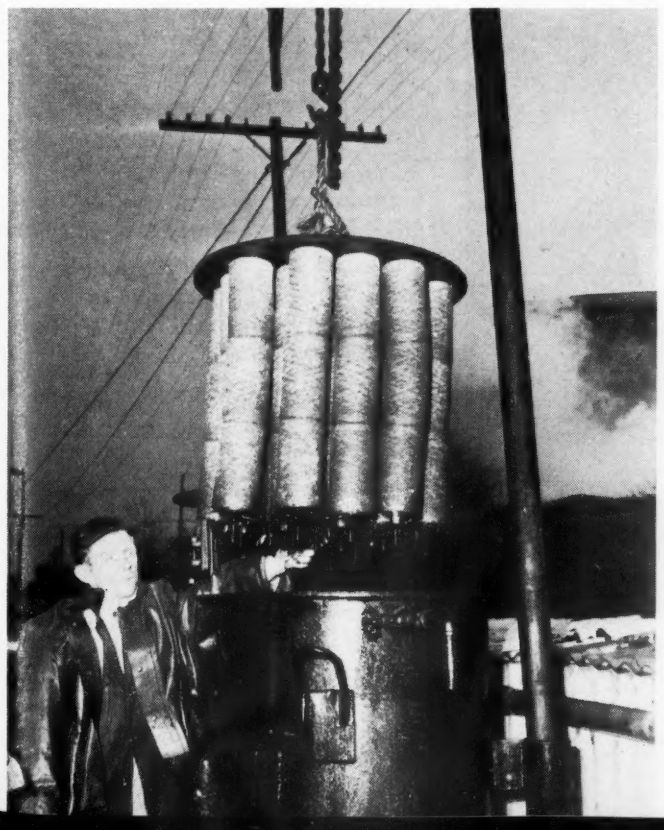
Summary of Field Tests on No. 2 and No. 3 Fuel Oils

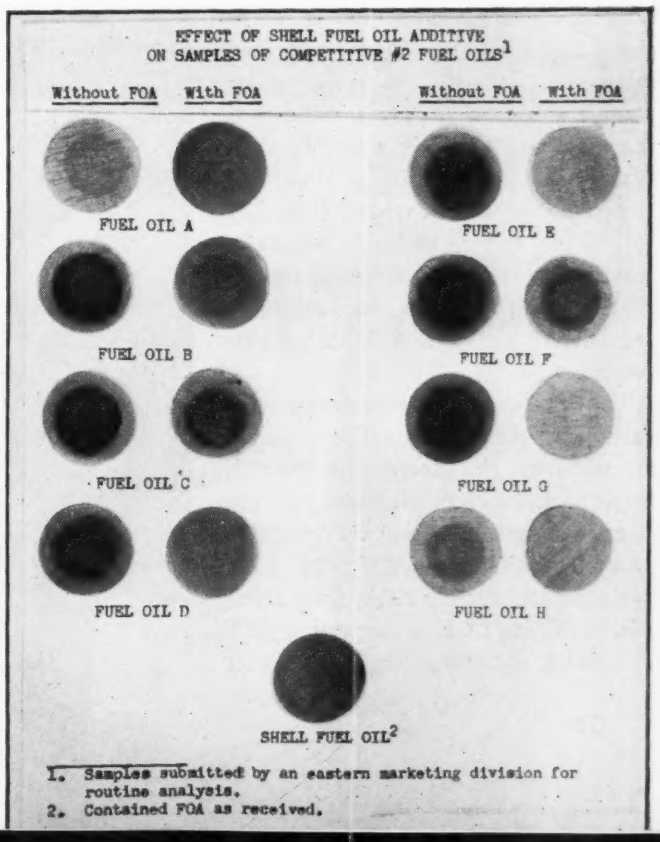
Test No.	1	2	3	4	5	6	7	8
Burner Type	Gun	Rotary	Gun	Gun	Rotary	Gun	Rotary	Rotary
Fuel System	1-Pipe	Gravity	1-Pipe	1-Pipe	Gravity	1-Pipe	Gravity	Gravity
Fuel Oil Used	#3	#2	#3	#3	#2	#3	#2	#2
INSPECTION AT START OF TEST								
Condition of Strainers—								
(a) In Main Fuel Line	75% plugged with black sludge.	75% covered with transparent film of sludge.	100% covered with black sludge.	100% covered with black sludge.	100% covered with heavy black sludge.	75% plugged with thin coat sludge.	75% plugged with heavy sludge.	1/3 plugged with black sludge.
(b) In Nozzle or Magnetic Valve	Completely covered with black sludge.	50% plugged brown sludge.	100% covered with black sludge.	100% covered with black sludge.	—	—	100% covered with heavy sludge.	95% plugged with heavy black sludge.
Time Since Strainer Last Cleaned	2 Months	1 Month	6 Months	6 Months	5 Months	6 Months	2 Weeks	5 Weeks
Cleaned at Beginning of Test?	Yes	No	No	Yes	No	Yes	Yes	No
Additive Used?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INSPECTION AT END OF TEST								
Condition of Strainers—								
(a) In Main Fuel Line	50% plugged	Clean	Clean at oil inlet & bottom	Clean	Clean, except for small amount lint.	Clean	Clean, except loose scale on bottom side.	Clean, except loose scale on bottom side.
(b) In Nozzle or Magnetic Valve	75% covered with black sludge.	Small amount loose sediment.	Sludge beginning to break loose.	Clean	—	—	Clean, except loose scale.	25% covered with loose sediment.
Amount of Fuel Burned During Test, Gal.	250	140	125	125	150	250	250	225
Duration of Test, Days	38	37	37	37	38	38	38	38

supplied without additive. All the fueloil supplied to both sections came from the same sources. At the end of the season, inspection of screens from installations receiving additive-containing fuel revealed that they were uniformly clean, whereas those from installations in the southern section, which had been supplied the same fuel without FOA, were generally covered and more or less clogged with dark brown to black grease-like sludge. The following season the fuel supplied to the southern section also contained FOA. Reports from the field indicated that with the use of FOA the number of complaints of screen clogging dropped to what is considered an irreducible minimum, i.e., about one-tenth or less of the complaints received during the preceding season when the fueloil contained no additive.

An interesting feature of the additive is that it can be applied at a cost of no more than two cents a barrel and it affects economies at least as great in other refinery operations, so its use does not raise the cost of fueloil. Other refiners will be offered a chance to make and apply the additive with Shell supplying the know-how on a fee basis. Whether these other companies adopt the Shell method or develop their own sludge preventatives is not too important for the moment, but it is clear that any fuel that deposits sludge or other foreign substances on strainer screens and nozzles is obsolete from this season on.

Fulflo *bulk plant filters, normally changed each million gallons, still clean after passing 7,200,000 gal. of fueloil containing FOA-5X.*





Fueloil Budgeting, Dispatching

LOIZEAUX OF PLAINFIELD HAS DEVISED SOME INTERESTING METHODS

by
Robert Gray

THE T. R. LOIZEAUX Fuel Co. of Plainfield is one of the better known New Jersey fueloil marketers. Tim Loizeaux, the principal owner of the company, has been active as an officer and director in the Fueloil Distributors Assn, of N. J., The New Jersey Fuel Dealers Assn. and the Eastern States Retail Solid Fuel Conference. (Whatever the correct pronunciation of the name Loizeaux, his friends pronounce it Lo-waa-zo.)

From the list of association connections it can be seen that the company's background was coal, and so is its foreground, or it was up until last year. The company's fueloil output has been climbing rapidly but it wasn't until 1949 that it passed coal in volume, and incidentally in profits. In fact the four million gallons of heating oil delivered last year brought the company its only real profits although it also sold at retail 16,000 tons of coal. Phil Carter, heading up oilheating activities is second man in the organization.

Loizeaux bought the business from his uncle Walter Temple back in 1927. It was then a 6,000 ton coal business only. The new owner immediately added fueloil and in 1935 started selling oilburners, has been a Timken dealer since 1942. The real surge in fueloil sales came after the war ended, with considerably more than half of the company's oil volume built since VJ Day. New fueloil accounts added in each of the past four seasons ranged from 275 to 502 and add up to 1,657. Naturally some accounts were lost during the period, but still these new ones represent the bulk of the present 2,000 oil customers.

Only about 100 of these new accounts each year have been the result of selling an oilburner; the others came through direct oil solicitation, advertising and the like. It is significant that the company was also adding coal accounts at an active rate, the number rising from about 600 in 1927 to 1,600 at the present time. A visitor gets the impression that through most of those years Loizeaux was at heart a coal man, but oil is definitely in the ascendency today.

With that brief background of company activities, the real purpose of this story, and the Plainfield visit to get it, is to describe two of the firm's operating methods, one a budget payment plan for fueloil and the other a very simple degree-day dispatching system.

Budgeting a fuel bill into equal monthly payments has long been accepted practice in the coal industry, principally because it is always necessary for the dealer to deliver a considerable share of his year's volume in the summer. Coal handling is bulky, both in rail movement and in trucking, so it has never been feasible to handle the whole job in the coal consuming months. At the same time many customers would object to heavy summer billing for something not needed for months ahead, so the monthly payment plan is popular.

It was only last season that Loizeaux gave it a trial with fueloil, but the results have been so favorable that in the coming season all customers will be asked to join the fuel club plan. First the company mailed a letter to a group of accounts that were more or less habitually delinquent. They bought the idea. Then a mailing was tried to customers that had always paid promptly and surprisingly quite a few of those wanted the budget plan too.

Tim Loizeaux

The letter that follows was mailed to 500 customers, slow pay and good pay:

Dear Mr. Jackson:

Here is something really new in fueloil service!

The enclosed card will enroll you in the LOIZEAUX FUEL CLUB*—a plan which permits spreading your fueloil cost over a ten month period. Unlike most budget plans there are no complications nor extra costs involved.*

Like a Christmas Club, our FUEL CLUB PLAN *calls for regular monthly deposits which are credited to your account. Oil deliveries are charged against this account at the price in effect at time of delivery. Thus you will accumulate a credit balance during the summer, and continue the same low monthly payments during the usually expensive months of December through March.*

Your monthly deposits will be established at 1/10 the estimated cost of heating your home, based on your last year's requirements, and this year's lower price. This will be your regular monthly deposit for 10 consecutive months. Any additional cost due to fluctuation in price can be paid by you next March and April after the 10 monthly Club payments have been completed. Credit balances are returnable to you at any time, of course.

We'll mail your monthly coupons to you just as soon as we receive your signature on the application card. And we believe you'll like and appreciate this extra feature of our regular service to your home.

Cordially yours,
T. R. Loizeaux
President

P. S. Your present debit balance of $22.80 may be included in your Club Plan, and also your oilburner service contract.

On receipt of the letter some 200 customers sent in a return card, a simple thing which said, "O. K.—I'm interested in your Fuel Oil Club Plan. Send me the details right away." The company then filled out and mailed the club certificate, outlining the conditions and payments necessary. This is reproduced in the next column. The first paragraph refers to terms on the reverse side, which is not illustrated. These are simply protection clauses, one saying in effect that if the member defaults in his payments the Company may at its option discontinue deliveries, and the other clause releases the Company from liability for delivery failures due to causes beyond its control.

Notice that the club plan calculation in the illustration includes not only an old balance standing on the books but also carries the annual oilburner service contract, so that oil and service are lumped into a single facility, a highly creditable arrangement, since our competitor gas does just that.

When the customers who had expressed interest got the club certificate, about three-fourths of them, or 150, went ahead with it. The Company now believes that if it had sent the letter to all of its 2,000 oil customers it would have about the same ratio, or 600 club plan users the first year. Eventually it hopes to build the number to a high figure, since this makes fuel costs relatively painless, and with gas coming to Plainfield some of these days, the opportunity to bury burner service expense in the fuel costs is desirable.

With each monthly payment the customer sends in an identification slip, ten of which were furnished by the Company at the start. These are numbered to match the club certificate and also dated by months. Unlike most budget plans this one does not run for 12 months in the year. All payments are made within 10 months, ending with February. This allows two months to clean up balances or get refunds.

Checking the first season's results at the end of February, no customers had been cut off for failure to pay, none had become seriously delinquent, and the program ended with the Company holding about a thousand dollars of the customers' money, an average of about seven dollars each to be refunded. In a couple of instances customers went South for the winter but kept on paying monthly installments and as a result built up for themselves considerable credit balances.

No accurate check was made by Loizeaux to learn how much the budget plan had improved the Company's overall collection record. He did have an interesting comparison however between oil and coal on this point.

Coal credits are considerably tighter and a much larger percentage of coal customers are C.O.D.'s, with the result that coal receivables standing on the books are considerably lower than oil receivables. To make a direct compari-

Phil Carter, *heads oilheating.*

Company's Copy

No 1186

Member Arthur Jackson

Address 491 Crescent City Plainfield

Deliver To: same Phone 4-0942

Date April 17 1949

T. R. LOIZEAUX FUEL OIL CLUB

Regulations

Subject to the terms on the reverse side hereof which describe our plan and to conditions herein stated, the member agrees to make

TEN MONTHLY DEPOSITS

The amount of which shall be determined by the Company at one-tenth of the estimated yearly fuel oil cost.

OIL DELIVERIES

Will be made on our Regular "Weather-controlled" degree-day method, and charged against your club account at the posted price in effect on the date of delivery.

CREDIT BALANCE REFUNDABLE

The member may cancel his Club plan at any time and on request so to do the Company will refund any credit balance on his account.

THE T. R. LOIZEAUX FUEL CO.

1830 So. Second Street PLainfield 6-2100

agrees to supply to the member the fuel oil he needs on automatic delivery schedule and accept ten monthly payments from May through February which shall be approximately one-tenth of his estimated annual fuel cost. Payments will be credited to the members account and charges will be made to the account at the price in effect when oil is delivered.

COMPUTATION FOR MONTHLY PAYMENT

Estimated normal consumption 1700 gals.	
Estimated cost at TODAY'S PRICE OF 11¢	187.00
Debit balance as of April 17 (Date)	22.80
Burner Service Contract	19.50
TOTAL	229.30
Monthly payment approximately 10%	23.00

The last amount is your monthly deposit—one payment due each month—MAY through FEBRUARY

NO COLLECTORS WILL CALL—SEND ALL DEPOSITS TO T. R. LOIZEAUX FUEL CO.—USE COUPONS

T. R. LOIZEAUX FUEL CLUB

No 1186

Amt. of Deposit $ 23.00

Sent By Member:

Month of May

NAME Arthur Jackson

ADDRESS 491 Crescent

IMPORTANT—PLEASE SEND THIS COUPON WITH YOUR DEPOSIT

T. R. LOIZEAUX FUEL CLUB

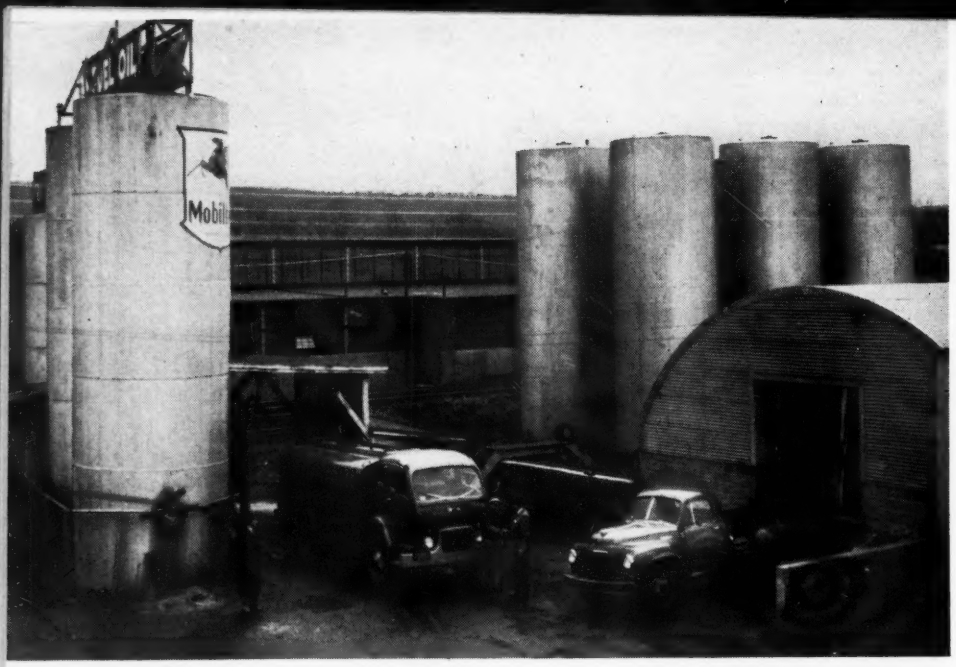
No 1186

Amt. of Deposit $ 23.00

Sent By Member:

Month of June

Jackson



180,000 gallons *of fueloil storage capacity to handle four million gallons in sales means that Loizeaux turns his inventory every few days in winter. Transports bring the oil from tidewater terminals 20 miles away.*

son between the two fuels on this point (and on several other analytical points) Loizeaux thinks of oil in tons instead of gallons, on the basis of 200 gallons to a ton. Here are his comparisons for last year on collections:

On January 1 his accounts receivable for coal represented $1.31 for every ton of coal sold during 1949. The year before on January 1 they had represented $1.06 for every ton of coal sold in 1948.

On January 1 this year his accounts receivable for oil represented $1.81 for every ton of oil sold in 1949, while the year before they had represented $1.78 for every ton of oil sold in 1948.

In both years the coal receivables had averaged much lower than those for oil because of so many coal C.O.D.'s, yet the figures show that coal collections had slowed down a lot during 1949. With oil accounts the collection rate had slowed down just a little in comparing the two years, and the budget plan naturally helped on the better oil showing by cleaning up a number of chronic delinquents.

As oilheating continues to grow more of the new customers are in lower income brackets. Their credit has usually been good because employment continues to be fairly steady. At the same time these folks should welcome budget plans to avoid heavy individual monthly bills at the winter's peak.

The Loizeaux Company's degree-day dispatching system is one of the simplest we have yet encountered, and for a company of its size seems to work very smoothly. The heart of the method is a single ticket form which serves as the driver's instruction sheet, the customer's invoice and the degree-day dispatching record. It is pictured on this page.

The tickets are padded in triplicate with one-time carbons fastened between the sheets by the printer. After leaving one with the customer the two returned to the office go to accounting and dispatching. To any degree-day dispatcher this tickets is simple to understand, except for the figures in the lower right corner. The driver, of course, fills in the amount of oil delivered, the price extension and the record of gallons in tank.

When the dispatcher has completed his degree-day calculations, he will file this ticket in the degree day file at 4,730. The last figure "Future Del. 5310" is not on the ticket at this stage. When the day for 4,730 degree-days arrives this ticket is removed from the degree-day file and given to the driver along with others in the particular zone to be worked.

The driver carries this old ticket with him on his route and when he has made his delivery he takes a new blank set of triple tickets which have been printed by the meter and fills in the customers name, address, oil amount and extensions. When he returns to the office he turns in two of the new tickets that he has just made out for the Jackson house, plus the old one that he took when he left the office. As previously mentioned, one of the new ones goes to accounting and one new one plus the old one to the dispatcher.

When the dispatcher makes his degree-day extensions on the new ticket, he finds that the next delivery is due at 5,310 D-D. He files the new ticket in the D-D file at 5,310. At the same time he puts the number 5,310 on the old ticket at the D-D Future Delivery line. This old ticket is then placed in an alphabetically filed folder under the customer's name, where it joins all previous tickets of the season. This provides a cross reference. To learn the supply situation on any account, the dispatcher looks up the last ticket that has been filed under the name, and from the figure in the bottom corner he knows that the cur-

We have today checked your fuel oil storage tank for sludge, bottom sediment and water accumulation. Our tank checkers report as follows:

Sludge or Sediment - half inch sludge - removed
Condensation Water - none

Remarks:-

This service is rendered in appreciation of your patronage and continued good will.

Yours in the interest of better heating,

T. R. LOIZEAUX FUEL CO

'blue coal' - KOPPERS COKE - MOBILHEAT FUEL OIL - TIMKEN OIL BURNERS - HEATING EQUIPMENT

Tanks are cleaned *without charge when they need it. After it's done the customer gets a notice as illustrated.*

rent active ticket is in the D-D file at 5,310.

When the 5,310 date arrives, the driver is again given the ticket from the D-D file for his routing ticket, and the process is repeated.

The folders in which the old tickets are filed under the customer's name are specially made to fit the tickets. They contain information on "K" factors, previous season gallonage, etc. Then they have boxes printed for the D-D extension calculations of each ticket. If some figure goes awry or some house gets in trouble the dispatcher can check his computations to see if it was due to a simple error or whether there has been some substantial change that must be investigated.

In the Loizeaux experience this system requires very little time in the office. A record has been kept of the hours needed on certain spot check days. There were two such checks in February. The first day had 111 drops totaling about 27,000 gal. Just two hours were used by one man to make all of the D-D and dispatching calculations. On the other day checked there were 91 drops for 21,000 gallons. The dispatcher handled all of the work on these tickets in one hour and 40 minutes.

Driver Jimmie Frusco *makes a delivery from a new White truck. His four brothers also work for Loizeaux. Charles, Pat and Neal drive oil trucks, Mike is a burner service man.*

Since all tickets are numbered consecutively they must be accounted for. The dispatcher has several small graph boxes drawn on a large sheet of paper. Each box has ten by ten squares, or a hundred total. The squares are numbered by tens down the left margin and by single digits across the top, so that there is a small square to be checked for each number in the hundred. This checking takes only a moment, but if any ticket is missing the fact quickly shows up with a blank square, and a search is started.

To avoid runouts in Spring and Fall months a slightly lower "K" factor is set than in the winter. In addition, any day that shows any degree-days at all chalked up for 10 as a minimum. This almost eliminates complaints while still keeping the deliveries on the D-D system.

Plainfield is a very attractive small city of 40,000 with around 10,000 homes. Thirty miles from New York, many of its families are prosperous commuters. With 2,000 oil and 1,600 coal customers, Loizeaux supplies a third of all the families in town. Having lived there most of their lives, he and Phil Carter know most of the customers by sight and by name. It's a pleasant setup.

INVOICE

T. R. LOIZEAUX FUEL COMPANY

PLAINFIELD, N. J. PHONE PL-6-2100

1630 SOUTH SECOND STREET PLAINFIELD, N. J.

Invoice No. 36121 Date Feb 12 1950

Sold to Arthur Jackson

491 Crescent

Gallons Delivered	Actual Amount Passing Thru Meter. Registered and Printed Automatically.
208	
Meter Reading at Start	Meter Tested and Sealed by New Jersey Weights and Measures Inspector.
000	

GRADE	Quantity	Price	Amount
#1 KEROSENE	Gals. @	¢	
#2 HEATING OIL	208 Gals. @	11 ¢	22.80
	Gals. @	¢	

PRICES AND EXTENSIONS SUBJECT TO CORRECTIONS

DELIVERY SERVICE RECORD

Tank Cap — Diameter

Shut Off ☐ — Bottom Fill ☐

Tight Coupl'g ☐ — Notify ☐

Not too Full ☐ — Ventalarm ☒

Misc. — Hose 100 Ft.

CHGE. X | C. O. D. | O. K.'d By D

Misc. | Collect

Driver Elkins | Time A.M. 4 P.M. | Truck 3

Received By Minnie Jackson

DEGREE DAY RECORD

52 Gals. Before Del. Approx.

208 Gals. This Delivery

260 Total in Tank Approx.

60 Less Reserve

Gals. per Day Hot Water = Days

K @ 2.9 Fall-Sprg. / 3.1 Winter

Degree Days To Date 4110

D D Next Delivery 4730

D D Future Delivery 5310

PATENTED-MOORE BUSINESS FORMS, INC., NIAGARA FALLS, N.Y.

TEAR HERE

Second Oil Heat Seminar At Hervey Junior College

MARCH 27 witnessed the start of the second seminar in oil heat specialty selling, held in the Evening Division, Walter Hervey Junior College, New York City. The seminar is sponsored jointly by the College and the Oil-Heat Institute of America and is designed to review current sales techniques and to improve sales management methods in oilburner selling.

Topics included in the course are sales psychology, sales personality, speech and voice factors in selling, coupled with technical information on domestic oilburners, fuels, combustion, draft and heat surveys. Pre-admission tests for sales personality inventory and mechanical aptitudes determine the student's eligibility for admittance.

Wall Flame Rotary Oilburners

PART I OF FOUR ARTICLES: PRINCIPLES OF OPERATION AND TYPES OF BURNERS

by
P. G. Coale*

BEGINNING ABOUT 1920 and up to the year of 1932, a number of manufacturers were producing the wall flame rotary oil burner; Silent Automatic, Carter-Korth, Kleen Heet, Petro-Nokol, Toridheet, Timken, Fluid Heat and a few others.

Various methods were tried in the early days of oil burning, but most of these did not prove practical. The problem was a matter of controlling the oil, or more so the size of the oil particles being delivered to the boiler walls. The hearth was just a flat surface of refractory cement with no flame ring.

At that time, several engineers tried distributing the oil by feeding it through the center of a horizontal round plate or disk mounted on the top of a vertical shaft which was rotated by a pulley or directly to the motor shaft. The results gave a poor fire with plenty of soot.

It has been said, back in these early days, that the G. E. electrical wizard, Dr. Otto Steinmetz, experimented along the lines of spraying the oil through tubes or thin ports from a spinning cup. Today, this is the ideal method of handling the oil for this type of flame. It has been reported that Dr. Steinmetz intended this machine to be called "A Home Gas Generator." Just how much of this is true, I cannot say; but if true, he was very close to the answer. Today, the wall flame burner has all the characteristics of gas firing, both visual and in sound.

The producers of this type of equipment have dwindled to three; Timken, Toridheet and Fluid Heat. The reasons for this are varied. First, the wall flame burner costs more to make than other types of burners. As the industry grew by leaps and bounds, price became a major factor. Cost of installation is higher than for other types of burners. Each job had to be tailored, and men who understood the functioning of wall-flame burners were few and far between. Unfortunately, this is the condition existing today. However, with more interest being shown in the wall flame burner I feel we can expect this minority to decrease considerably.

There has always been considerable controversy concerning the advantages of the wall flame rotary over the gun type burner. There are factors in favor of both, with the rotary having the edge.

The wall flame burner will not perform satisfactorily in long narrow boilers where the length exceeds the width by more than 1¼ to 1-1/3 times. The gun burner has also proven a more satisfactory instrument for burning oil with fuel rates greater than six to seven gallons per hour. Then too, if the filter screens of the rotary burner become clogged or plugged, the rate will drop causing the flame to drop into the oil ring which will soon result in soot and eventually prevent the burner from igniting.

The wall flame burner will perform more satisfactorily in the short-pass boiler in that fuel consumption will be considerably lower than when the gun burner is installed in the same boiler. This is due to the fact that the flame and gases of the wall flame burner are placed in closer proximity to the heating surfaces, and thus, the transfer of heat is much more efficient. It has been proven many times that the rotary excels the gun burner in boilers or furnaces of round cross-section or rectangular boilers not exceeding the limits expressed in the preceding paragraph. Another advantage of the wall-flame rotary burner is that the flame ring very rapidly reaches a combustion supporting temperature which reduces the waste of fuel during long heating up periods.

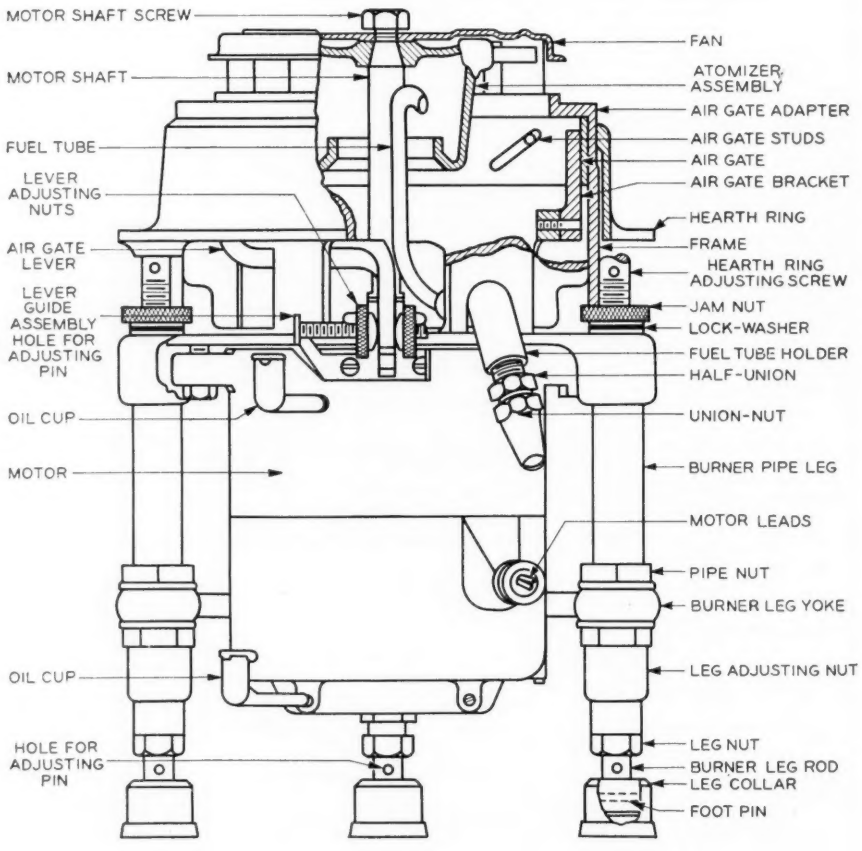


Fig. 1. *Wall flame burner with discharge air control; has separable fuel atomizer. Motor has cups for lubricant.*

*Field Engineer, Fluid Heat Div., Anchor Post Products, Inc.

Also, the oil passages of the wall flame rotary are relatively large and there is less likelihood of foreign matter in the oil clogging than there is in the pressure burner.

This is not intended to be an article on the theory of combustion; however, it is believed that if the installation or service man has some basic knowledge of the fundamentals of the combustion process he will have far less trouble than the man who is not so well informed.

Before going further into wall flame burners, let us consider the theoretical side of the problem. All oilburners are in actuality a device constructed for the purpose of preparing the oil and air properly for complete combustion. The oilburning process may be divided into the following seven stages:

1. Preparing the oil for combustion.
2. Preparing the air for combustion.
3. Vaporizing and gasifying the oil.
4. Mixing the oil and air.
5. Igniting the mixture and burning it.
6. Transferring the heat to surfaces to be heated.
7. Carrying away the flue gases.

To achieve the above, we must have some general knowledge of the theory of combustion of fueloil. Fueloil is composed of hydrocarbons except for a small percentage of oxygen, nitrogen and sulphur compounds. When fueloil is burned, its hydrocarbon molecules are not oxidized instantaneously to carbon dioxide and water. Several decomposition products or incompletely oxidized products will be formed as intermediates. Besides these intermediate combustion reactions, the combustion of liquid hydrocarbons is the combustion of:

A. Carbon
B. Gaseous hydrocarbons
C. Hydrogen
D. Formaldehyde
E. Carbon monoxide

There are two types of combustion which are the direct opposite of each other; they are:

A. Aldehydeous combustion (the blue flame)
B. Carbonic combustion (the yellow flame)

To simply understand these two forms of combustion, the blue flame is air burning in an atmosphere of fuel. With the reverse, or yellow flame, fuel is burned in an atmosphere of air. The blue flame is characterized by a non-luminous flow of gases from which the heat radiation is far less than that of the yellow flame, under similar combustion conditions of temperature, surface, etc. This flame is always free of soot, but due to the low rate of combustion, it will usually be very long. This entails the risk of impingement of the flame upon the boiler or furnace walls and consequent damage to them. The yellow flame combustion is characterized by bright glowing particles of solid carbon which involves the risk of soot. Soot is not only a waste of fuel but also reduces the heat transfer through the boiler walls.

Therefore, the ideal flame for heating would be the happy medium between the two extreme forms of combustion, as neither of them is ideal from a technical standpoint.

The wall flame rotary burner comes very close to striking this happy medium in that a flame is obtained that is partially blue and partially yellow. The characteristic wall flame rotary fire has a blue base with yellow streaks running through and changing to orange-red tips. The percentage of blue and yellow will vary with the oil characteristics and temperature of the burning zones. "Cat" cracked fuels will produce a noticeably lesser percentage of blue flame and higher percentage of yellow and orange. Incidentally, the wall flame burner will burn the new "cat" fuel very efficiently, and a discussion of tests with this fuel will be taken up later.

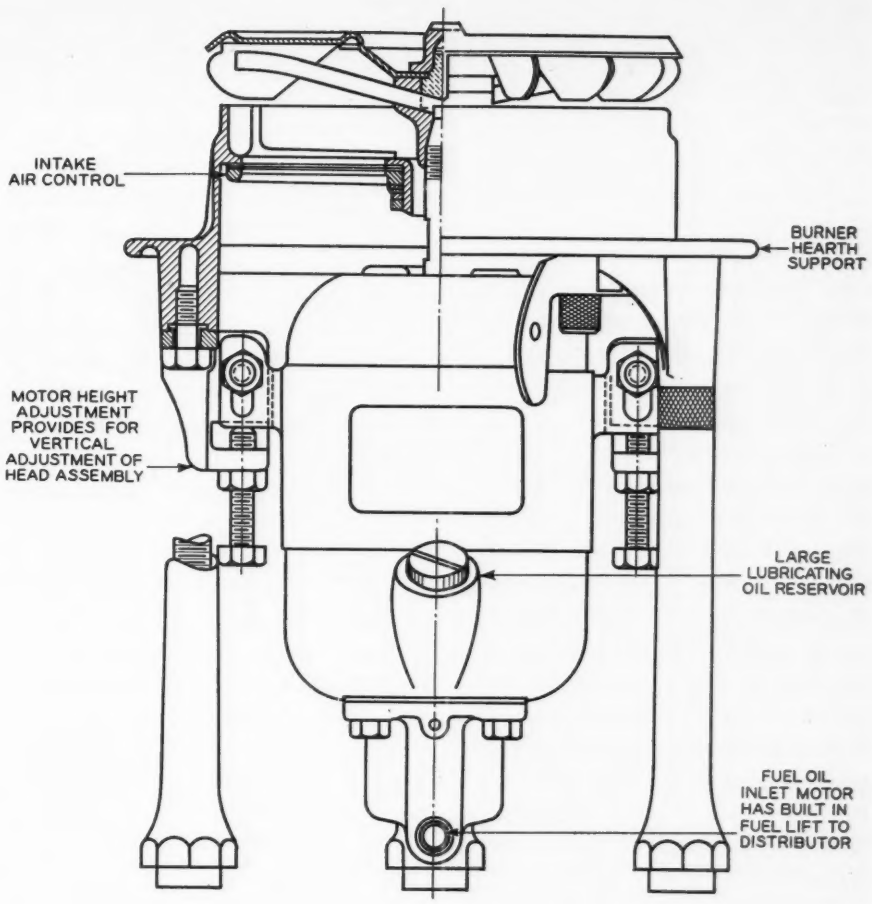

INTAKE AIR CONTROL
BURNER HEARTH SUPPORT
MOTOR HEIGHT ADJUSTMENT PROVIDES FOR VERTICAL ADJUSTMENT OF HEAD ASSEMBLY
LARGE LUBRICATING OIL RESERVOIR
FUEL OIL INLET MOTOR HAS BUILT IN FUEL LIFT TO DISTRIBUTOR

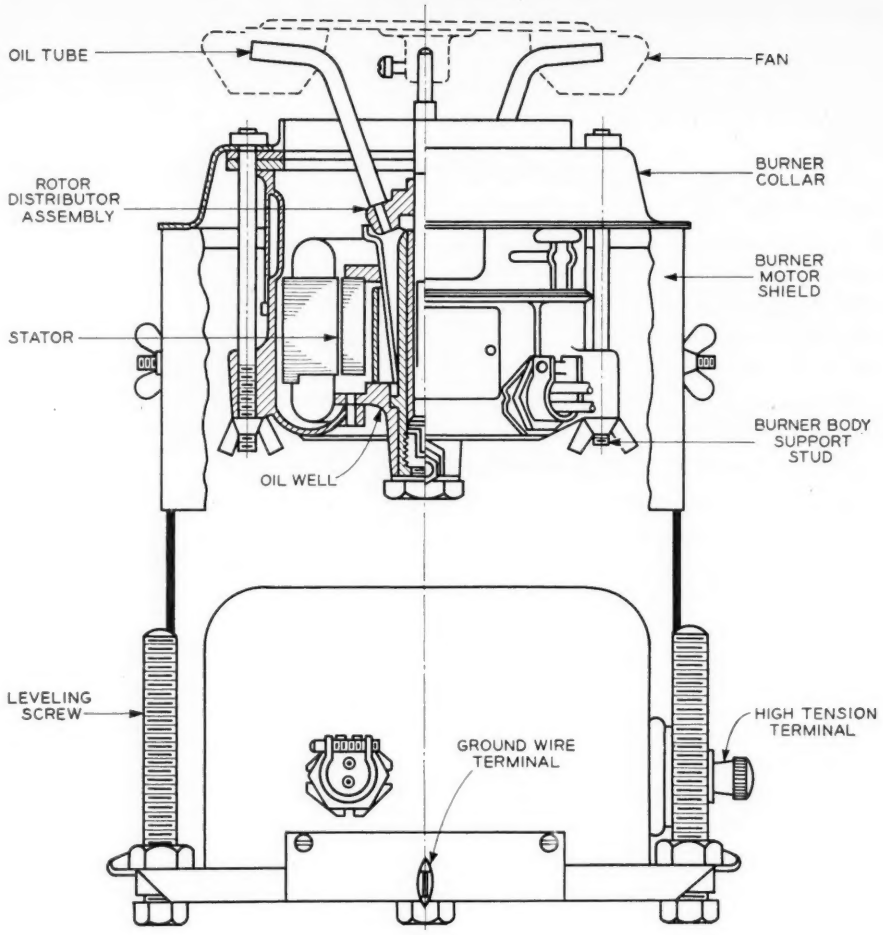
Fig. 2. *Wall flame burner with intake air regulation. Motor has large lubricating oil reservoir and pumps lubricant over bearing. Motor incorporates mechanical fuel lift.*

Referring to figures 1, 2, and 3, the most popular wall-flame burners of today are illustrated. Some of the "old boys" are still in operation after twenty years.

These three burners employ the same basic principles. The main difference being Fig. 1 has discharge air regulation and gravity fuel feed to the oil distributing cup while Figs. 2 and 3 employ intake air regulation and a mechanical fuel lift to the oil distributing mechanism.

To understand the process by which the wall-flame rotary burner develops the combustion process refer to Fig. 4. This illustrates a typical burner installa-

Fig. 3. *Wall flame burner with intake air control; distributor integral with motor rotor; fuel serves as motor lubricant; ignition transformer in burner frame.*



tion. The burner is located in the center of the hearth and consists of a motor that rotates the oil distributor and a fan to supply the necessary air for combustion. See Figs. 1, 2, and 3.

To continue, following the flow of air and oil across the hearth, we find a turbulent mass of air mixing through the flow of oil as the air is diverted up by the short vertical face of the flame ring that was designed for this purpose. Due to the centrifugal force exerted on the oil droplets, they continue through the air stream to the far side of the flame ring, or oil striking surface. At this point ignition takes place. The mixture is ignited by means of a hot "jump spark," caused by an electrode that is inserted through the hearth.

This electrode is connected to a trans-

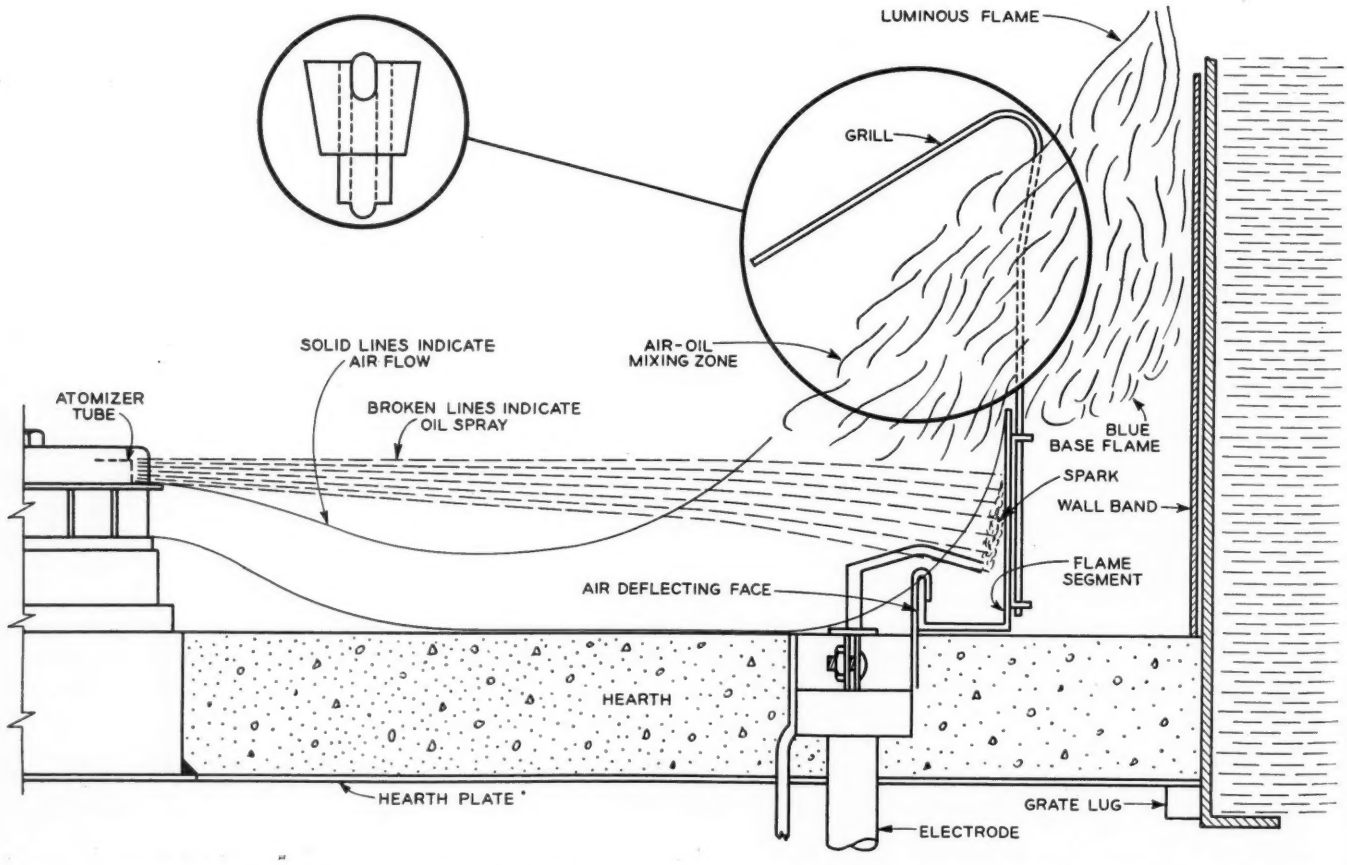


Fig. 4. *Flame ring and grill illustrating function of flame ring structure in relation to fuel distributor and fan of burner.*

former of which the secondary side is 8500v. to 15000v., depending on the size of the hearth and the burner, or the number of igniters.

The flame ring is made of high temperature heat resisting steel in order that it will withstand the high temperatures to which it is subjected.

The flame at the time of ignition is all yellow, but in a matter of seconds, because of the rapid temperature rise of the metal, the oil is gasified. As it becomes lighter in weight, and is assisted by the air flow, the flame lifts to a position at the top of the flame ring where a grille has been installed. The purpose of the grille is to promote the proper mix of air and oil and also to direct the flame close to the boiler wall. As was stated before, all this happens in a matter of seconds.

We now have a flame that has a blue base, that mixes into a yellow, then orange-red tips. This is the ideal flame.

It is advisable in all installations to place a stainless steel wall or backing band behind the flame ring. The use of this band is especially important when burning "cat" cracked fuels. This band is spaced away from the boiler walls so that it will maintain a controlled high temperature on the flame ring. If the band were placed up against the boiler wall, it would remain too cool and carbon would form on the flame ring. Carbon begins to burn at a temperature of 750 deg. F.; so if this temperature or a slightly higher temperature is maintained, carbon will not be formed.

With the correct adjustment of oil flow and air volume, we will find we now have a very efficient flame. From this flame, 12% CO_2 or better with no smoke may be expected; and because of the wall wiping action of the flame, a comparatively low stack temperature is maintained.

The characteristic flame has a blue base, changing to yellow, then with orange-red tips, very lively, never floating or lazy. With the correct oil, air and over fire draft (—.015" to —.035"), this flame will be clean, quiet and odorless.

Oil and Gas Reserves Score Major Increases

A JOINT REPORT, issued by the American Petroleum Institute and the American Gas Association, on March 14 revealed another major increase during 1949 of proved reserves of crude oil and natural gas. Both attained new all-time peaks.

Combined proved reserves of crude oil and natural gas liquids—condensates, natural gasoline and liquefied petroleum gases—were estimated at 28.3 billions of barrels at the close of 1949, increasing 1.5 billion barrels over 1948's total of 26.8 billion barrels. Natural gas reserves were estimated at 180 trillion cubic feet, an increase of 6.5 trillion cubic feet over last year's total of 173.8 trillion cubic feet.

Reserves	*December 31, 1948*	*December 31, 1949*	*Increase 1949 Over 1948*
		(*Barrels of 42 Gallons*)	
Crude Oil	23,280,444,000	24,649,489,000	1,369,045,000
Natural Gas Liquids	3,540,783,000	3,729,012,000	188,229,000
Total Liquid Hydrocarbons	26,821,227,000	28,378,501,000	1,557,274,000
		(*Thousands of Cubic Feet*)	
Natural Gas	173,869,340,000	180,381,344,000	6,512,004,000

Production	*1948*	*1949*	*Increase 1949 Over 1948*
Crude Oil	2,002,448,000	1,818,800,000	(—)183,648,000
	183,749,000	198,547,000	14,798,000
Total Liquid Hydrocarbons	2,186,197,000	2,017,347,000	(—)168,850,000
		(*Thousands of Cubic Feet*)	
Natural Gas	6,007,628,000	6,245,041,000	237,413,000

Note: The gas production figures indicated above are net after deducting only the amount of gas returned to reservoirs for cycling and pressure maintenance. They therefore include the gas put into underground storage.

Production of crude oil and natural gas liquids in 1949 was estimated at 2,017,347,000 barrels, a drop of 168 million barrels under 1948's record-breaking total of 2,186,197,000 barrels. Production of natural gas was estimated at 6.2 trillion cubic feet, an increase of 237 billion cubic feet over last year.

Proved reserves are described as the underground supplies which the oil and gas industry can draw upon for consumption at any time. They are reserves whose location and extent have been proved and measured by drilling. These proved reserves were estimated at a meeting in Colorado Springs, Colo., with API's reserve committee accounting for crude oil estimates and AGA's committee, the natural gas estimates. Both estimated natural gas liquids.

A thumbnail picture of reserves and production appears below:

◈

U. S. Department of Labor Fueloil Prices (January)

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken January 15 (cents per gallon):

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	14.07	13.90	11.90	..
Manchester	14.80	14.30	12.60	..
Portland, Me.	13.78	13.75	11.90	..
[3] Buffalo	14.54	..	12.93	12.93
[1] New York	..	..	12.02	..
Philadelphia	..	12.32	11.58	..
[1] Chicago	13.50	13.16	12.24	12.24
[4] Detroit	..	14.21	13.18	..
Milwaukee	..	13.60	12.70	12.60
[1] Kansas City	..	12.24	11.22	11.22
Minneapolis	13.90	13.67	12.58	12.67
[1] Baltimore	..	12.65	11.63	..
[1] Wash., D. C.	..	13.12	12.04	..
Jacksonville	..	13.83	12.52	..
Norfolk	..	12.60	11.00	11.00
Richmond	..	13.00	11.22	..
[2] Savannah	..	14.50	12.60	..
[5] New Orleans	..	13.82	12.36	12.36
Portland, Ore.	..	13.94	11.64	6.55
[6] San Francisco	..	13.77	11.44	6.48
[4] Seattle	..	14.77	12.65	6.74

[1] Prices include 2 percent tax.
[2] Inspection tax of one cent per gallon included on kerosene only.
[3] Prices include 1 percent tax.
[4] Prices include 3 percent tax.
[5] Prices include 3 percent tax on all fuels except gas; prices for kerosene and fuel oil No. 1 also include one cent per gallon State health tax, and 1/32 of one cent per gallon State inspection tax.
[6] Prices include 3.5 percent tax on all fuels except gas.

Sparky Blows A Fuse

NATION'S NO. 1 SERVICE MAN HUNTS ELECTRICAL TROUBLE

by

J. W. Schulz

"OILBURNERS give us service men little trouble today," Sparky informed me gravely, "but as I always say, it's the people in the houses that give more bother than anything. They want everything perfect. Too many of them yell loud about the littlest things like radio interference, pump whine, a thermostat off by three degrees, and a starting jolt that wouldn't disturb a mouse.

"I use my own secret weapon when a fool burner owner yells at me a little too much," he went on firmly. "I never holler back. I turn on the bamboozle."

Risking our lives to turn and study my face for a reaction to this, while he kept on driving over 70 miles an hour to reach a trouble job, he decided additional explanation was needed.

"I talk sense to a sensible burner owner," he expanded, "but I talk nonsense to the owner who yells at me."

Sparky and I hadn't seen each other for three months. Then, hearing I was in town, he had arranged to join me at breakfast. He gave details of his success at handling the dozen baffling service calls he'd been on lately, and said he'd bought a wonderful new flame mirror and some new gauges for draft, nozzle pressure, and pump vacuum. He'd been trying out different makes of nozzles and oil filters on jobs fired less than 1.0 gph, and announced that certain nozzle and filter manufacturers were doing all right.

He'd looked me up mainly, however, to have me keep him company on a red-hot service call related to stubborn electrical trouble. Two heads might be better than one, he indicated. Anyhow the trobule had to be licked right away because none of the controls on the job were working, so he had to give a demonstration of ending a service headache in record time.

While he drove us at breakneck speed to the job, Sparky gave its case history. The burner had blown fuses often during the past two years, and each time the owner had simply put in a new fuse himself. Yesterday things got worse. The owner blew a few boxes of fuses, one fuse after the other, then reluctantly put in a service call. Sparky arrived and tried a new fuse. To the owner's amazement, the burner started.

"He told me to go because everything was all right," Sparky said with disgust, "I kept on explaining that more fuses would blow because I hadn't found the trouble. With the burner still running, I'd poked around the controls and wiring for only five minutes when the fuse blew again. Then every fuse I tried blew out. I had about ten with me. Fit to be tied, the owner said I should have gone away while the burner was doing all right. When I couldn't get it running again, he accused me of ruining everything.

"He didn't deserve it, but I let his family have heat for the evening, until I could get back today. I connected a lamp cord and plug to the burner motor and ignition transformer, wired in parallel with each other. I cut the motor and transformer loose from all the old wiring and controls. The owner could make the burner run, I told him, by plugging it into a basement light socket and staying with it to make certain it ran properly.

"He was hollering at me plenty, so I told him he didn't know burners and didn't know what he was talking about. I said analysis for double phasing was needed, and that took time, because expensive dioxides in the solenoids had dehydrated, what with him replacing burned-out fuses instead of calling a service expert."

My big hope, I told Sparky as we stopped at the house, was that the job would blow fuses again when we tried to run the burner using its wiring and controls.

"That it will do, all right," he assured me, "It's the fuse-blowingest job you ever saw!"

Without knocking, Sparky opened the back door and ran down the basement stairs calling out, "I've brought a beautiful morning with me!"

"And I've had a helluva night!" answered the man of the house, following us downstairs. "All night long, I come down and run the burner for half an hour every two hours, and sit there and watch it. Why doesn't it blow fuses now? What did you do, Sparky, bring along someone to help you!"

"Help me!" roared Sparky. "Any time I need help with a burner, I'll quit the profession. My friend here takes a plane a few hundred miles just to watch me, the Nation's No. 1 Service Man, do my stuff. Anyhow, this job's got real trouble that's out of the ordinary. For one thing, doesn't it blow more fuses than any other job ever did?"

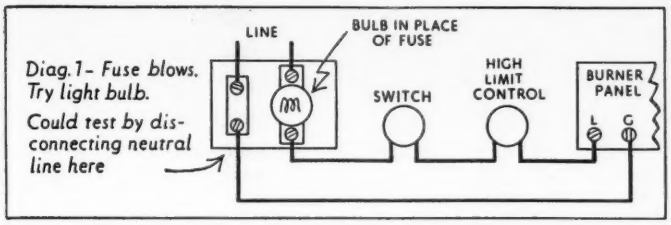
"You get it to run without me sitting here like it runs when I sit here and you'll be all right," grumbled the owner. "Will you tell me, have you got any new ideas today about what's wrong?"

"We can talk or we can start fixing it," answered Sparky opening his tool box. "You want it fixed, don't you?"

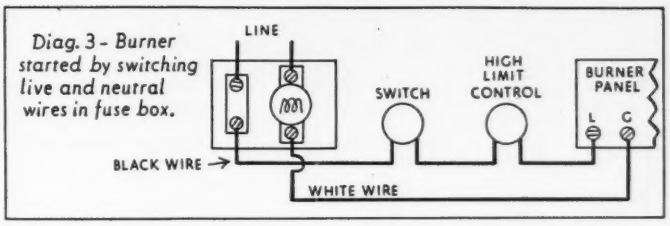
Saying he'd show me how it blew every fuse he tried, Sparky wired up the burner in the regular fashion, using the controls and old wiring. Diag. 1 shows the 110-volt wiring, which is typical. The house had solid-neutral wiring, no fuse in the neutral or ground leg. The live leg from the electric meter ran through a fuse used only for the burner, then to an on-off burner main switch and a high limit control, and finally to the "Live" input terminal of the stack control.

Sparky's Back!

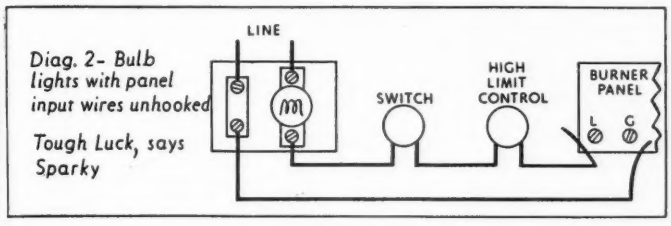
Making his debut in the last January issue of FUELOIL & OIL HEAT, *Sparky won the hearts of thousands of service men whom he calls his fellow-travellers in the basements. Self-proclaimed "Nation's No. 1 Service Man," Sparky finds that the occupants are the big things wrong with oil-heated homes. He wants homes to have occupants. Otherwise who would call him when once in a blue moon a burner really does break down? Burner owners would be much improved, says Sparky, if they spent less time carping about unimportant details, and more time appreciating the best service men, like Sparky.*



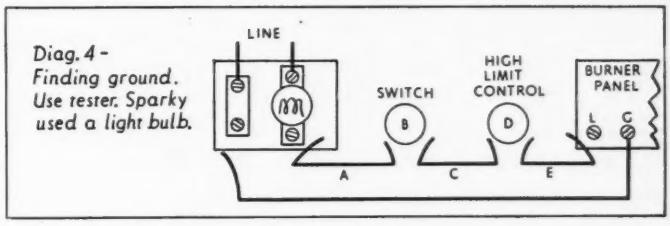
Diag. 1 - Fuse blows. Try light bulb. Could test by disconnecting neutral line here



Diag. 3 - Burner started by switching live and neutral wires in fuse box.



Diag. 2 - Bulb lights with panel input wires unhooked. Tough Luck, says Sparky



Diag. 4 - Finding ground. Use tester. Sparky used a light bulb.

Sparky had his pockets full of 30-ampere fuses; the size, he said, this burner owner had used since fuse blowing had become a problem. With the burner switch turned on, the room thermostat set high, and the burner thus all ready to start, he screwed in a fuse. It blew. In rapid succession, he blew four more fuses without the burner motor budging.

"See what I mean?" he said.

Whispering to me, so that the burner owner would not hear, Sparky said he was going to use a few brand-new tricks he'd learned last night from books.

After disconnecting the thermostat wires at the burner panel, he screwed an ordinary 50-watt light bulb into the fuse block, in place of the fuse. The bulb went on with full brightness. As the burner was not ready to start because the thermostat circuit of the control panel was open, this proved that screwing another fuse into the fuse block would blow the fuse.

I had a mild urge to whisper to Sparky that he might try disconnecting the neutral line in the fuse box (see Diag. 1), but I said nothing. If disconnecting the neutral line in this way would put out the light bulb in the fuse box, then the trouble would be in a short circuit between a live 110-volt wire and a ground or neutral 110-volt wire.

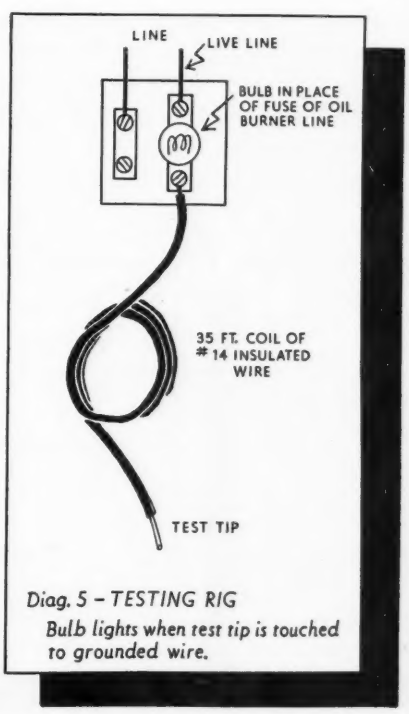
After unscrewing the light bulb, Sparky disconnected the 110-volt lines at the stack control panel, as Diag. 2 shows. He frowned when the light bulb went on again as he screwed it back into place.

"Tough luck," he grunted. "The way I had it figured the trouble was in loose connections in the burner panel that blew fuses for years and finally developed a good ground yesterday. I'd counted so much on control panel shorts or grounds that I've got a new panel stached out in the back of the car."

Standing next to Sparky, who was gloomily staring at the bulb glowing in the fuse box, I whispered, "First turn off the burner main switch, and then open the circuit of the high limit control by pressing its switch."

When the switch was turned off, the light went out. It went out also when the switch in the high limit control was opened. That is, opening the circuit at either the on-off switch or the high limit control made the light go off.

"Sparky, there's a ground in the wire from the high limit control to the control panel, or maybe a ground in one side of the high limit control," I whispered quickly when for a moment the owner, who was trying to watch every move Sparky made, turned his back.



Diag. 5 – TESTING RIG
Bulb lights when test tip is touched to grounded wire.

Sparky, trying to figure things out, started making wiring diagrams on a cardboard carton. With the control panel input wires still disconnected, as Diag. 2 shows them, to settle a question in his mind he took the light bulb from the fuse box and screwed in a fuse. It blew.

"That proves what I'm thinking," Sparky exclaimed. "Ground in the black wire to the panel. I've got an old house-wiring trick for this job, a trick I often used years ago when I was an electrician. We just make the white wire the live line because it's got no ground in it, and we make the black wire the neutral or ground leg. Switching the two output wires of the burner fuse box does the trick!"

He quickly connected up as Diag. 3 shows, working with the bulb out of the fuse block. When he screwed the bulb back, it did not light. When he substituted a 30-ampere fuse for the bulb and connected the thermostat circuit wires to the control panel, the burner started.

"Finished, that's all there's to it!" Sparky announced to the owner.

He replied with great relief in his voice, "And it took you hardly no time at all! Why, you can hardly charge me more than six bucks for your work."

I suggested to Sparky aside that he prove to the owner that a fuse of 15-ampere size, which was the size that should be used, would not blow now. The owner was delighted, and Sparky instructed him never to use a fuse of higher rating.

After hastily paying Sparky, before the bill became bigger because additional minutes were added to the time, the

owner said he had to rush off to his store, as he'd been away too long. He ushered us to the basement stairs.

"You go along," I told him, "but Sparky and I will stay for a few minutes. I just want to take a few photographs of Sparky working on your heating equipment.

After the owner had left, Sparky looked at me with suspicion.

"You already learned from me how to bamboozle?" he asked. "You're not going to take pictures of this heap of so-called heating equipment!

"Sparky, maybe you've got a shock coming," I replied. "The burner's running. Turn off the snap-switch and see if it stops. Then open the switch of the high limit control, and see if it stops."

The burner would not stop for either the on-off switch or the high limit control. Puzzled, Sparky took out the fuse; the burner stopped. He opened the thermostat circuit, and that stopped the burner. He tripped the panel off "on safety," and that stopped the burner.

After sketching wiring diagrams a few minutes and doing some heavy thinking, Sparky decided that he would find the ground in the live line to the control panel, eliminate it, then wire the job according to Hoyle with the white leg to the panel neutral and the black leg live. He disconnected at the fuse box, on-off switch, high limit control, and control panel as Diag. 4 shows, and said he'd find a ground in A, B, C, D, or E.

He used a test rig of the type shown in Diag. 5, telling me to stand near the bulb in the burner fuse box and call him when it went on. Touching the test tip to a water pipe turned on the light bulb, proving it would go on when touched to a grounded wire.

Line E in Diag. 4, the line from the high limit control to the burner panel, proved to be grounded. Hardly able to restrain himself, Sparky chuckled with glee and kept flashing the test light, touching the test tip first to one end of the grounded wire, then to the other end. He speedily found the defect that grounded the wire. Worn-through insulation permitted the copper wire to come in contact with a sharp edge in a junction box. Sparky tore some friction tape into thin strips and eliminated the flaw with bandaging that would be a credit to a surgeon.

After completing tests of all the controls, which worked properly now, Sparky was reluctant to leave the scene of his triumph. First he wanted to show me a test rig after the fashion of Diag. 6. Noise from the electric drill would warn of a short, even with the fuse box out of sight so that light from a bulb in it could not be seen. Besides, this rig makes the test tip give a spark heavier than results from using a light bulb in the fuse block.

Sketching the rig shown in Diag. 7, I told Sparky I liked it because it employed a branch circuit fuse. A bad defect in the electric drill might blow the main fuse when Diag. 6 was used.

Working alone on a job and desiring to use a small bulb, say 10-watt because that provides a sensitive test, Sparky could use the test rig in Diag. 8, I pointed out. There's a long line from the fuse box to the pigtail socket, and a line only a few inches long from the socket to the test tip. You carry the bulb with you and can see if it lights when you test for a ground.

Sparky asked about drilling holes with an electric drill connected up as Diags. 6 and 7 show. Could a heavy drill connected this way be put to work?

Diag. 9 is better. Here, finding no convenient basement outlet for his drill, a service man obtains current from a fuse block by putting a fuse in an upstairs outlet connected, of course, to the same fuse block. An old-style double fuse block is connected to the feed line of the electric drill, fusing both legs to make certain the live leg is fused.

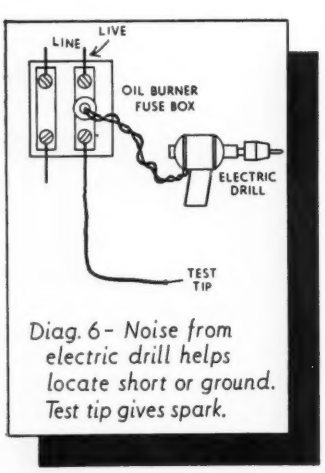
We wound up taking a few pictures that show the back of Sparky's head. He's got some reason for avoiding having his face show in a photograph.

"Just as it showed up on this job," Sparky concluded, "I lick any kind of trouble on any kind of burner installation, and lick it fast. Most days, though, it's enough to run into *plain* troubles, like the spark may be weak or something, or like the customer complains about the quality of the oil. A weak spark is right up my alley. Complaints about bad oil all come out the same. The oil can't be bad. I work for the oil company.

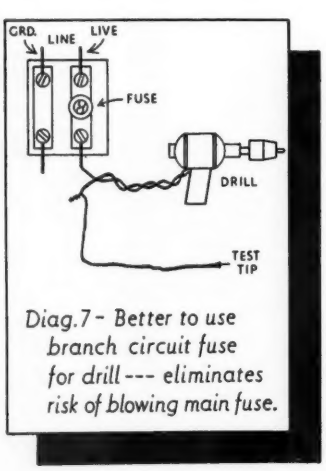
"Now on this wiring work, a fellow should always work according to the National Electrical Code. There's no excuse for taking shortcuts that are unsafe, not according to Hoyle. The guy who puts a 'violation' into a burner installation ought to be shot.

"Wiring considered unsafe by good authorities is not good," I admitted.

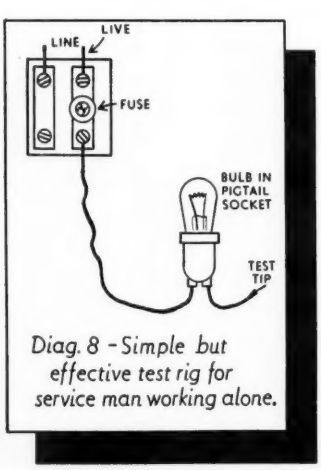
"Naturally," Sparky added, "Circumstances alter cases. When fuses keep blowing, on some jobs you just have to keep trying one thing after the other. Me, some days I'll do *anything* to get a sick burner back into operation."



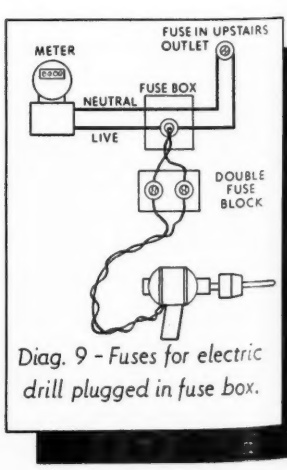
Diag. 6 - Noise from electric drill helps locate short or ground. Test tip gives spark.



Diag. 7 - Better to use branch circuit fuse for drill --- eliminates risk of blowing main fuse.



Diag. 8 - Simple but effective test rig for service man working alone.



Diag. 9 - Fuses for electric drill plugged in fuse box.

Installing Range Boilers In A Horizontal Position

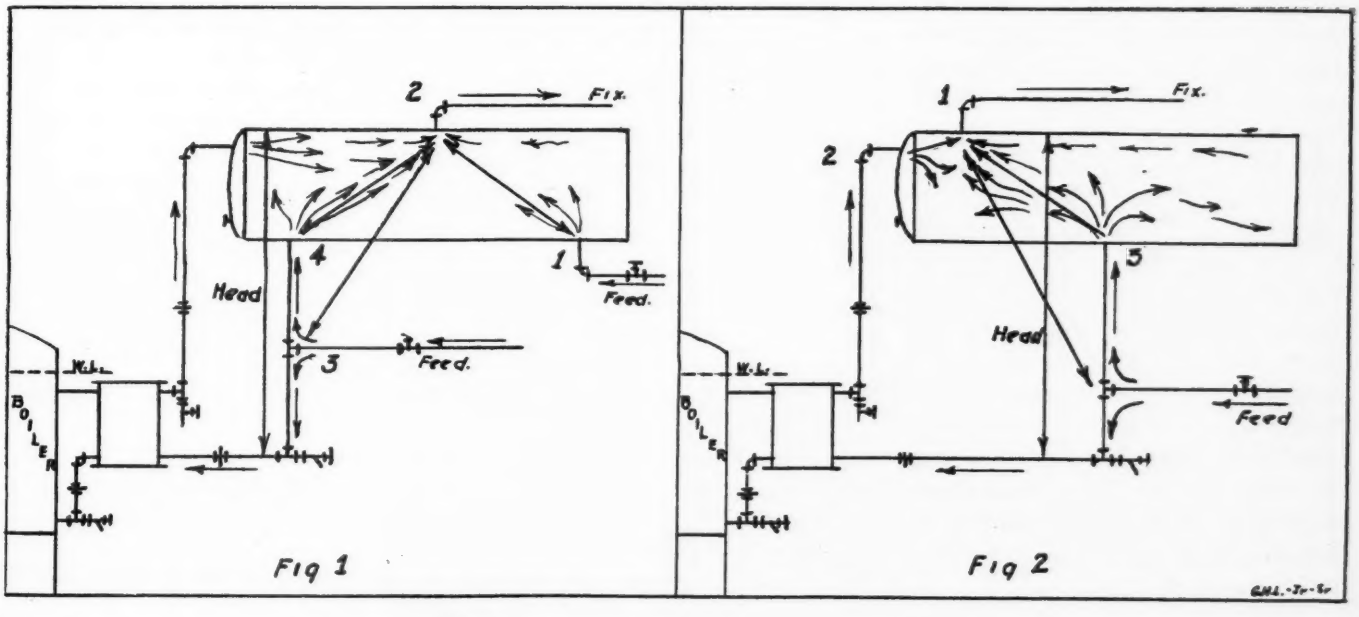
by
George H. Lippencott, Sr.
and
George H. Lippencott, Jr.

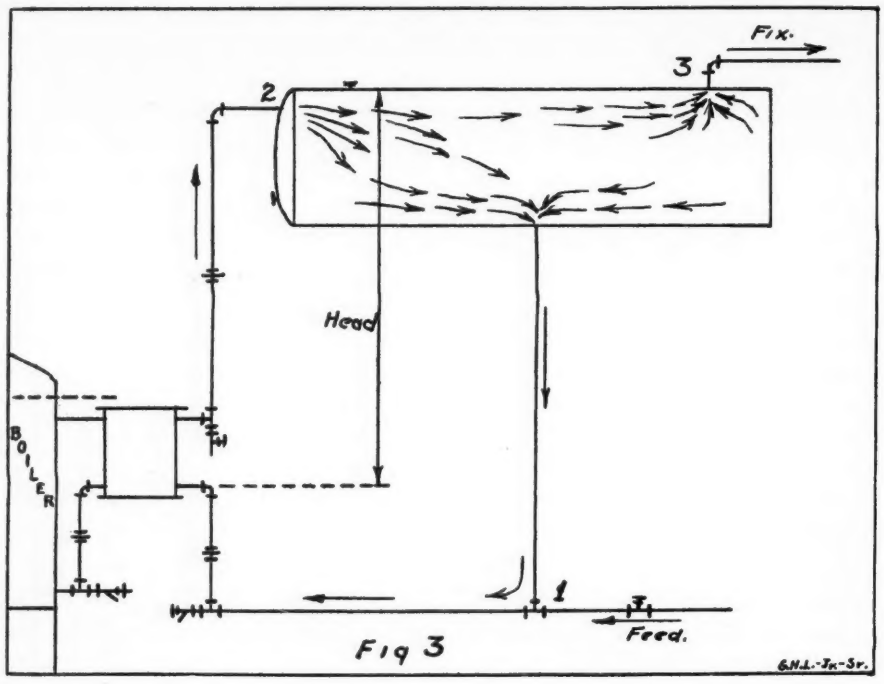
THERE HAS BEEN a great deal of controversy on the correct hook-up of range boilers when set in a horizontal position. Comments have been received on previous articles indicating some difference in opinion on the proper way to install these tanks. There are probably several hook-ups which will serve the purpose more or less efficiently. Any satisfactory installation is the result of a combination of common sense, technical knowledge and experience. The person responsible for laying out such an installation should know the reason for the location of each connection if a satisfactory result is to be obtained.

Perhaps the easiest way to show what difficulties may be encountered is to compare incorrect and correct installations. The accompanying drawings show typical hook-ups found in the field, with small arrows showing direction of flow. Figure 1 is one hook-up that has been commonly used. In this case, tank is set with the two tappings on the tank at the bottom and with single tap at top. The cold water feed is shown in two positions in this case, since either may be found in the field. No. 1 shows the feed connected to the tapping in the bottom of tank. No. 2 shows the house line to the fixtures. The arrow (1-2) shows the general path of the incoming feed water when a faucet is opened. Since the full street pressure is at point No. 1 and the relief point is at No. 2, the natural result is a short circuit of the tank or, in other words, the street water at a low temperature will cross the tank from 1 to 2 through the heated water in the tank directly into the house line. Here we have a condition in which the stored water can be at a high temperature yet the water delivered to the fixtures will be quite low. In the case in which the feed is connected to a tee in the sediment line as at No. 3, the incoming feed water under faucet open conditions will hit the back of the tee and have a tendency to enter the tank at point No. 4, as well as drop down the sediment line. Again we have a condition permitting a short circuit of the tank from point (4) to point (2) resulting in a similar condition to our first case.

Figure 2 is another hook-up used a great deal. In this case the tank has been set with the two tappings at the top and the one tapping at the bottom. The house line at No. 1 in this case is connected to the tapping nearest the circulating line from the heater at point No. 2. When water is being drawn a short circuit of the tank occurs between points No. 1 and No. 2. The water entering the tank at point No. 2 from the heater is at a relatively low temperature since the velocity of water passing through the heater coils is greatly increased under faucet open conditions. The heater is not an instantaneous type and therefore does not have the heating surface required to deliver a satisfactory temperature instantaneously. Again, although the stored water may have a satisfactory temperature, the fixtures will receive water at a low temperature. With the feed connection shown there is also a short circuit of the tank from point No. 3 compounding the trouble in a similar manner to Figure No. 1.

Figure 3 is recommended (see next page) and eliminates the foregoing objectionable results. No. 1 is the feed water connected to the run of the tee which directs the flow of street temperature water to the heater. Experiments with this connection have shown that the feed water does not enter the tank through the sediment line on open faucet conditions. The feed water passes through the heater first before entering the tank at (2). Although the heater is not an instantaneous type and is rated at 100° temperature rise in three hours, it will raise the temperature of the water before it enters the tank at point No. 2, the opposite end of the tank from the





house line. There is no tendency for the feed water to by-pass to the house line at No. 3 from No. 1. Actually the feed water passing through the tee at No. 1 acts somewhat similar to a jet pump and causes a flow of water from the bottom of the tank, down the sediment line, to the heater. This eliminates the feed water entering the tank through the sediment line and mixing with the stored hot water in tank or causing a short circuit of the tank to the house line. Also, the sediment line is dropped as low as possible in a loop to increase the distance between point of feed at No. 1 and the house line or relief point at No. 3 in order to prevent a short circuit of the tank. The reason for keeping this distance as great as possible is simply to make it as difficult as possible for the feed water to enter the bottom of the tank before passing through the heater. You might compare this to two wires carrying electricity. The farther apart they are placed, the less chance of a short circuit. The water entering the tank at point No. 2, after passing through the heater, is at a lower temperature and heavier than the stored hot water and as the arrows indicate, it tends to drop to the lower part of the tank with limited mixing and flow toward the sediment line. The installation as shown in Figure 3 has been tested thoroughly with 140°F. boiler water for summer use and found to be most satisfactory and economical.

It is necessary, on making the installation, to place the tank as high as possible so that the head will be a maximum. We have already discussed the disadvantages of a vertical tank in a previous article and will not repeat it here.

Award Contract For Canadian Refinery Project

THE SECOND NEW REFINERY PROJECT for western Canada was disclosed recently when the British American Oil Co., Ltd. awarded an engineering and construction contract to Canadian Kellogg Co., Ltd. for all processing equipment at a plant in Edmonton, Alberta. The other scheduled major undertaking is for Imperial Oil Ltd. at Winnipeg, Manitoba.

The Edmonton refinery, with an annual capacity of two million barrels, will process crude from Redwater, which will be brought in by pipeline. When completed, the new refinery will give British American three western refineries with a total annual capacity of 6,500,000 barrels.

Gas or Oil Heats Nine Out of Ten New Homes

THE THIRD IN A SERIES of surveys conducted by *Better Homes and Garden* magazine, made during 1949, has found that nearly nine out of ten new homes in the nation are heated by either gas or oil—44% for gas and 43% for oil. Coal, the survey developed, is used in only 11% of new house heating installations, 8% handfired and 3% stokerfired. Wood or other fuels is used by 2%.

In New England oil is the dominant heating fuel, and to a lesser extent in other sections of the East, the report continues. In the West South Central, Mountain and Pacific regions, and to a smaller degree in the East South Central and West North Central portions, gas is most popular.

To make the study F. W. Dodge Corp. mailed questionnaires to families building new homes for their own occupancy in the 37 eastern states covered by the Dodge operation. In 11 western states the questionnaires went to a list of representative home builders developed by the magazine with the cooperation of the U. S. Department of Commerce and building permit officers in the area.

In a comparison between 1941 and 1949 in 37 eastern states, the report of findings concludes that the trend has been to oil as a preferred heating fuel, 50% used oil in 1949 compared to 33% in 1941. Gas showed a slight drop from 36% to 33%, with coal falling off sharply from 28% to 14%.

The following tabulation shows the principal fuel used for heating in the indicated areas:

Principal Fuel Used For New Home Heating

	Gas	*Oil*	*Coal, hand-fired*	*Coal, stoker-fired*	*Other*
New England	4%	94%	1%	1%	—%
Middle Atlantic	23	62	13	2	*
South Atlantic	38	56	2	2	2
East North Central	24	51	20	4	1
East South Central	57	15	7	7	14
West North Central	46	35	9	9	1
West South Central	96	2	—	—	2
Mountain and Pacific	81	15	—	1	3

*Less than 1%.

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Radiators Stay Cold

"WHEN you adjusted the burner last week you brought back a trouble I had years ago when I hand-fired coal," complained an apartment house janitor to a burner service man.

"A tenant is cold. I find a radiator or two in his apartment cold when all the other radiators are hot. I give him heat, all right, by shaking the water out of the radiator vent vales. But the next day I have to do the same thing again."

The service man knew how he had caused the trouble, for he knew one-pipe steam plants. Sometimes in his efforts to raise efficiency he risked causing this trouble.

Finding 11gph and 850° stack temperature, he had switched to the 9 gph nozzle he hoped would do. Now he knew that though 9 gph probably matched the building's heat losses and fuel consumption (8,500 gallons a year), it was too low to cause the radiators to vent dependably. He went back to 11 gph.

With light firing by oil or coal, droplets of water in the vent valves of certain systems can prevent radiators from heating. Harder firing develops pressure that drives air through even the vent valves which act temperamental because they contain a few drops of water.

Certain radiator vent valves have more tendency than others to trap water. Again, some fail to vent when the slightest amount of water lodges in them. Then too, vent valve design is not the only reason for water-logging.

The valve in Diag. 1, which has a tongue (not a curved tube) to invite water to drain from it, is not screwed far enough into the radiator. A service man can remedy this by enlarging the radiator opening with a ⅛" pipe tap.

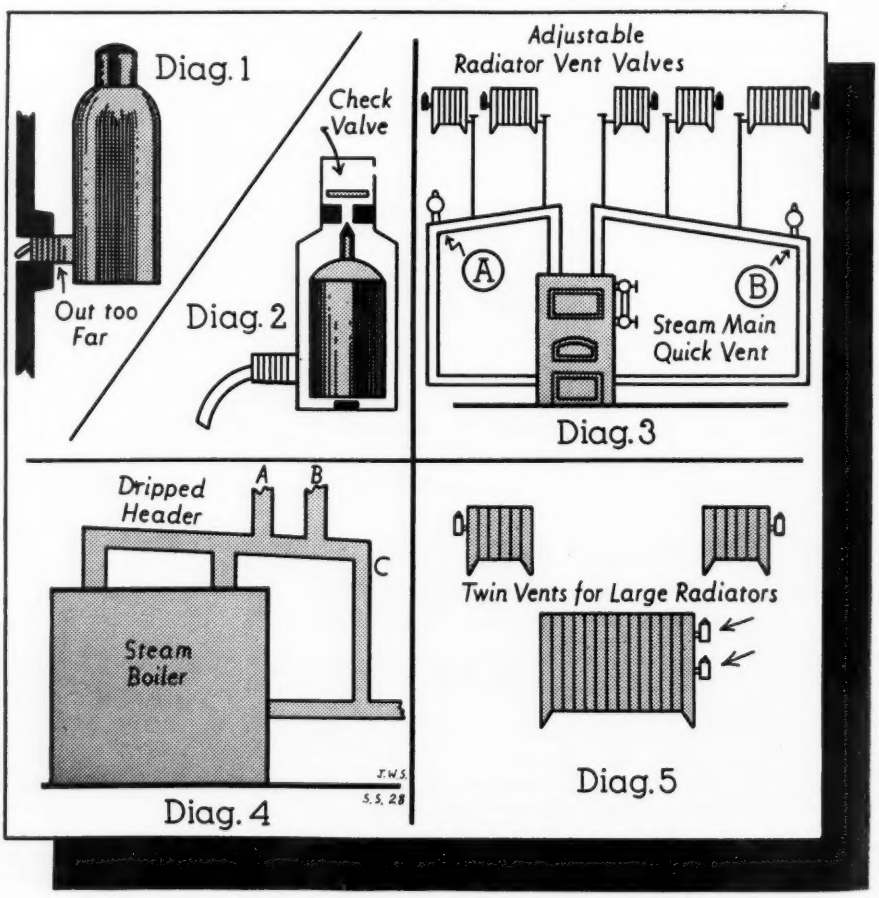
The check valve in the vacuum vent valve of Diag. 2 may give trouble if the system is fired too lightly. It may stick shut, if the valve is dust-loaded because it's 15 or 20 years old, or it may open when more pressure is developed than is needed to vent air from the other vent valves in the system. A boiler fired lightly may not raise one pound of pressure though the burner runs steadily three hours. With 20 minute "on" periods, the slight pressure developed before the burner stops may open the check valves in certain vent valves, but fail to open others. When most of the radiators vent and start heating, the pressure may stop rising. Where this is encountered, a high gph rate often is used only because a lower rate would cause certain radiators to stay cold at times.

fueloil & oil heat Short Short Article on Burner Service

Diag. 3 emphasizes adjustable radiator vent valves and steam main quick vents. Use the same make and model vent valve throughout a system unless the vent valve manufacturer recommends otherwise.

Excessively wet steam is steam that carries along with it droplets of entrained water. It can cause pounding in steam mains and radiators, and trouble with water-logging of vent valves. The dripped steam header in Diag. 4 is designed to give relatively dry steam to steam mains "A" and "B" by draining back to the boiler, through pipe "C," any water that finds its way into the header. The excellent design of many of the oil boilers made today eliminates the need for a dripped header for usual installations which are operating properly. These boilers give dry steam, even slightly superheated steam. However, when abused they will cause wet-steam troubles including water-logging of vent valves. The abuse includes over-firing, carrying the water line too high, or failing to cure boiler water troubles that cause foaming or priming.

Many adjustable vent valves operate most dependably when set for fairly fast venting. Set slow, they are apt to fail to vent at times. Therefore avoid using lowest settings of adjustable vent valves. Where a system has mostly small radiators and but one or two very large rads, don't hold back most of the vent valves. Instead, drill and tap the largest radiators and use twin vent valves on them, both set for fastest venting (Diag. 5). You can then obtain balanced heating of the smallest radiators by setting their vent valves fairly wide open.



CAMPAIGN

NATION-WIDE CAMPAIGN *Sells* MODERNIZATION TODAY

Majority Of American Homes F... More Than 30 Years Old In Surv...

Modernization Urged To Boost Value And Add To Efficiency

MINNEAPOLIS, Feb. 4 — Although Americans spent $7,000,000,000 in 1949 for home modernization, a vast majority of them "still live in places that are outmoded architecturally and functionally and do not afford the real advantages of modern living.

That is one of the conclusions of a study just completed by the Minneapolis-Honeywell Regulator Co. appraising the nation's modernization needs. The analysis revealed that more than half—23,000,000—of America's 42,000,000 homes are more than 30 years old. Pennsylvania and New York alone have 4,626,079 in that category.

Many of these homes are beginning to show the ravages of time, suffering from the "creeping paralysis of inefficiency" that attacks plumbing, heating and lighting equipment and other functional parts, said Tom McDonald, Honeywell vice president. He said that waste sets in when 30-year obsolescence begins.

Becomes 'Better Bargain'

...to stepping up the ...is home, moderniza... the average owner to ...s of dollars to the ...property, Mr. McDon... out. In many cases ...d product becomes ...better bargain" than a ...he study showed.

...ple, a typical 30-year-... house that might have ... $12,500 today on the ...et could be made worth ...ough the expenditure ... survey indicated.

owner would realize $2,900 in enhancement of value, in addition to having a modern home.

The smallest outlay in such a move would go for modern heating controls; new type of day-night thermostat which the owner can install himself costs less than $40.

Selected as Specimen

In making the study, real estate operators used as their specimen a one-family colonial frame structure which is basically sound but needs such modern conveniences as a tile bathroom, automatic heat and a streamlined electric kitchen, as well as a new roof, insulation and painting.

While costs vary consi... various sections of th... the breakdown for m... would run something l...

Installation of a mo... including new count... and sink, $700; electr... automatic washing ... garbage-disposal u... ern bathroom with ... $1,000; new roof, $... aluminum screens ... dows, $300; insul... ern heating pla...

Most H... In Thei...

MINNEAPOL... can be said to ... ing of the art... That's the c... a study of h... ducted by Tom... dent of the ... Regulator C... indicates th... 43,000,000 ho... more than 3... they are still ... and plumbing ... and other a... to a past ge...

"This pr... hardening ... increasing ... decreasing ... McDonald, ... terested in ... 000,000 h...

Older Homes Cost More to Keep Up

Minneapolis (UP) — America's biggest "industry," the operation of its 42,000,000 homes, will waste at least $349,231,650 this year, according to an analysis just completed for a Minneapolis concern.

More than 54 per cent of the nation's homes, or 23,282,110, are at least 30 years old and original equipment is beginning to show the ravages of time, the survey disclosed.

In a majority of these obso...

OLD HOUSES STUDY SHOWS OBSOLESCENCE

MINNEAPOLIS (AP) — Old houses can be said to be subject to hardening of the arteries.

...down from ... con... vic... apoli... s sa... cent ... U.S. ... old. ... quir... ng ... the...

23,000,000 Old Houses In U. S. Await New Look

MINNEAPOLIS — Although Americans spent approximately $7,000,000,000 in 1949 for home modernization, a vast majority of them "still live in places that are outmoded architecturally and functionally and do not afford the real advantages of modern living."

That is one of the conclusions of a study just completed by the Minneapolis-Honeywell Regulator Com... ...on's mod... ...analysis ...n half— ... 42,000,... ... 30 years ...ew York ...that cate...

...re begin... ...e of time, ...ping par... ...t attacks ... lighting ...functional ...d, Honey... ...said that ...ear obso...

Wastage Found In Older Homes

MINNEAPOLIS, Dec. 17 (U.P.) America's biggest "industry," the operation of its 42,000,000 ... will waste at least $349,... this year, according to an ... sis just completed for a ... apolis concern.

More than 54% of the ... homes, or 23,282,110, are ... 30 years old and original ... ment is beginning to sh... ravages of time, the sur... closed. In a majority of t... solescent houses, faulty ... and inefficient heating p... crease water and fuel exp... average of 15% a year, ... to Tom McDonald, vice-pr... Minneapolis-Honeywell...

Many Homes Have Hardened Arteries

Minneapolis (AP)—Old houses can be said to be subject to hardening of the arteries.

That's the conclusion drawn from a study of home obsolescence conducted by Tom McDonald, vice-president of the Minneapolis-Honeywell Regulator Co. His sampling indicates that 51 per cent of the ... are mo... cases ... lightin... heatin... that be...

"Thi... harder... increa... decrea... McDo... terest... 8,000,... contr...

Survey Reveals Homes Waste Heat

MINNEAPOLIS—(UP)—America's biggest "industry," the operation of its 42,000,000 homes, will waste at least $349,231,650 this year, according to an analysis just completed for a Minneapolis concern.

More than 54 per cent of the nation's homes, or 23,282,110, are at least 30 years old and original equipment is beginning to show the ravages of time, the survey disclosed. In a majority of these obsolescent houses, faulty plumbing and inefficient heating plants increase water and fuel expenses an average of 15 per cent a year, according to Tom McDonald, vice president of Minneapolis-Honeywell, for whom the survey was made.

Much of the waste is going up the chimney, according to a check of 42,000 furnaces which showed that less than 10 per cent of home heating plants are in "satisfactory" condition.

MINNEAPOLIS **Honeywell**

FIRST IN CONTROLS

Oil and Firing Rate Are Factors in Pulsation Cure

by
Chas. W. Fisher

OBSERVATIONS of Mr. Fred Feigenbaum in his article, "Puffs and Pulsations," in your November issue, puts the finger on today's No. 1 combustion problem. As your magazine provides a forum for ideas and experiences, you may welcome our views too.

I place the emphasis on the chimney, the oil, and the firing rate, rather than on the draft, the nozzle, and the excess air. To get to the point, any service man can operate any burner without pulsation (a) by removing the smokepipe between the boiler and the chimney, (b) by using kerosene or a No. 3 oil having a narrow range of boiling points, or (c) by using a firing rate which is relatively low compared to the combustion space in the boiler.

Mr. Feigenbaum's observations corroborate our own experience regarding 90° turns taken by the products of combustion. I find that a burner's tendency to pulsate are increased by (1) having the products of combustion make more than seven or eight right-angle turns between the combustion chamber and the top of the chimney, (2) having the area of the flue passages, smokepipe, and chimney flue small in relation to the total length of travel from the combustion chamber to the top of the chimney, and (3) using a blended fueloil, that is a fueloil which has a wide range of boiling points, instead of a straight-run oil having a narrow range of boiling points.

Last spring I started several replacement installations—warm air jobs having combustion space volumes less than three cubic feet per gph. Using kerosene left in the tanks, the clean and steady fires produced 13% CO_2. After No. 3 oil was delivered we were called back to correct noise, and I resorted to the old dodge of opening the fire doors 3/16" to damp out pulsation. Later with only No. 3 oil in the tanks I had to reduce the flame size, increase the draft, use an 80° nozzle, set the nozzle as far forward as possible, and open the fire door 3/8". These steps controlled the thumps. And I dropped the CO_2 to 8%. I go through this procedure regularly with boilers having insufficient combustion space, flat passes, deep finned passes, and small or large tubes fitted with twisters.

Today I can attain quiet combustion on kerosene but not on No. 3 oil. We had quiet combustion 20 years ago on straight run oil but not on a mixture of kerosene and No. 5 oil, then termed a blend. To me it appears that today's No. 3 cat-cracked No. 3 fueloil represents 40% to 60% of all the fractions in the crude. Although this oil looks like pre-war No. 3 and has the same gravity, fire point, etc., I wonder if it is not a composite of fractions of widely different boiling points. It might include kerosene or No. 1 fueloil that normally fires 1" from the nozzle of a pressure burner and also fractions of Nos. 4 and 5 oils that normally fire 2" from the nozzle.

Small Tight Boilers

Another factor related to pulsation is the small volume of boilers and warm air furnaces considered modern today, compared to the enormous boilers and furnaces of the 1920's. Any installation can be a quiet job when it includes an old cast-iron boiler with cavernous, smooth, and direct flue passes. The little steel cans of today can be hidden under the basement stairs. Here's an old thumb rule of mine: When the circular area of the flue passages of a boiler or furnace is at least equal to the area of the smokepipe or chimney flue, the job can be fired up to the draft capacity of the chimney without pulsation. That is, such an installation can be forced up to the smoke point without any noise. This rule has no application to modern equipment because the circular area of the flue passages, in furnaces and boilers, seldom equals the breeching area.

What to do? We know we cannot do without chimneys; we cannot obtain domestic fueloil different from today's No. 2 oil; if boiler and furnace manufacturers do not provide greater combustion chamber volume and greater flue-travel area, we have to get along with present sizing of combustion chambers and flue areas.

It is my experience that the best course is to reduce the firing rate sharply. Reduce the combustion chamber size for the smaller fire by laying insulating firebrick or a steel liner inside the present combustion chamber.

Reduce Firing Rate

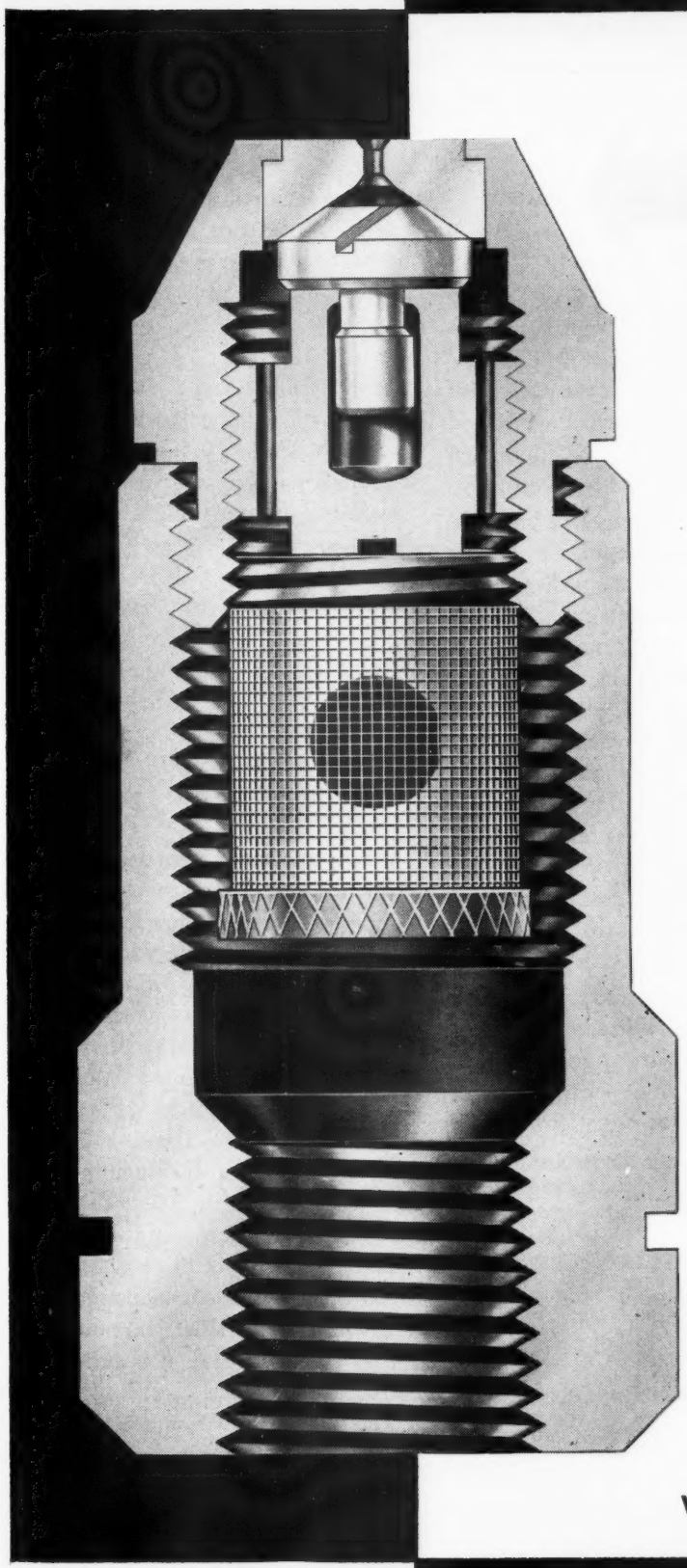
I believe the Btu content of today's cat-cracked fueloil is so much higher than that of pre-war oil that the boiler and furnace catalogue firing rates can safely be cut 15% to 20% for hot water and warm air heating. For open steam jobs, lower the firing rate only after the mains have been insulated and the steam vents have been replaced by vacuum valves.

I attack the trouble by thus steadying the fire at the point of flame propagation. This seemingly is a good course to follow until we can circumvent the rigid connection between the boiler and the chimney (rubber smokepipe?), or obtain a domestic fueloil that will provide a wobble-proof flame, or obtain boilers and furnaces large enough for their firing rates.

Baerenklau and Scott Buy Skaggs-Walsh

ALBERT G. BAERENKLAU, president of Baerenklau & Co., Brooklyn, and John W. Scott, president of Buckley & Scott, Watertown, Mass., have bought the majority interests in Skaggs-Walsh, Inc., long established fueloil and oilburner marketers of Long Island City, N. Y. Baerenklau has been elected president, Scott is first vice-president and treasurer, Stan Walsh remains as vice-president and general manager, Norris Skaggs is also a vice-president but will be inactive, and Henry A. Baerenklau is secretary and assistant treasurer.

Skaggs and Walsh were pioneer Timken dealers and had built up a fueloil volume of around five million gallons. Future plans include aggressive promotion of oilburner sales with the opening of a retail showroom and some form of coordination of retail fueloil deliveries with those of Baerenklau & Co.



HERE IS *the* NOZZLE

THAT IS DELIVERING OUTSTANDING PERFORMANCE IN OIL BURNERS FROM COAST TO COAST!

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OHI SHOW
BOOTH 351

WRITE FOR CATALOG 147C

DELAVAN MANUFACTURING CO.

3009 SIXTH AVENUE • DES MOINES 13, IOWA

Aluminum Insulation

DEALERS CAN SELL THIS MATERIAL WITHOUT HEAVY INVESTMENT

About one in each dozen of oilheating dealers sells home insulation. All dealers recognize its value in holding down fuel costs, but the majority of them are unwilling to make the investment in trucks and blower equipment to handle the rockwool type. Aluminum foil, properly fabricated, is said to do a good job. Its installation needs almost no equipment outlay. The manufacturers of this product were asked to write an outline of its characteristics and selling points. The article follows:

DO YOU WANT TO install insulation as an added source of profit? Do you want to use insulation as a good-will builder, create new contacts, offer new service which will make more customers for your oil heat business?

You can gain these benefits very simply without an expensive outlay for equipment and materials. You can easily train men to make insulation installations. You can give your customers real insulation service provided you use judicious specialization and select the type of insulation which lies within your capacity.

To install insulation in buildings already constructed, in top floor and cellar ceilings, or in crawl spaces where there are no cellars, is decidedly helpful in winter and summer provided the right kind of insulation is used.

Because of the modern strides made in the insulation field, such installations can be made with no special investment except $15 to $25 for a stapling hammer and a stapling tacker. The only other tools needed are a pair of hand snips or shears.

Multiple sheet aluminum insulation, made with very tough vapor-proof aluminum sheets and an accordion flame-proof, mold-proof, vermin-proof separating fiber, now prefabricated and available, can be easily installed in one operation by any one with just a stapling hammer or tacker in buildings under construction or in old ones. It is merely spread between the joists, floor or ceiling beams and stapled into place.

When installed, it has a thermal factor for upward heat flow of C .083, which is the equivalent of 4" of the very best laboratory-dry rockwool. For downward heat flow the C factor of this insulation is .052, which is the equivalent of 6" of the best rockwool while and when it is bone-dry. The aluminum sheets are never affected by moisture.

One of the advantages of multiple aluminum accordion insulation is that it is so easily handled as well as easily installed. A carton containing 1000 sq. ft. of insulation weighs but 50 lbs., can be carried under one arm, occupies only 2½ cu. ft. In other words, enough insulation for a sizable home can be tossed into the back of a passenger automobile, or carried on the bus by one man. A man with absolutely no previous experience in installation can soon attain the speed of 2000 sq. ft. installed per day, which is about double the rate for ordinary insulation.

The insulation referred to attacks the problems of heat flow in a very scientific manner. All authorities agree that heat flow through building spaces, which are only air, is mostly by radiation.

Conduction is not an important factor; it is responsible for only 5% to 7%.

Prefabricated *aluminum insulation is installed, as shown, by tacking between studs.*

Multiple aluminum accordion insulation weighs less than 1 oz. to the square foot, and has only 1 part mass to 500 of low-conductive air, so this small amount of conduction is dwindled to practically zero.

Convection currents account for 15% to 28% of heat flow through wall spaces. Multiple aluminum surfaces separated by accordion fiber sheets check convection currents. Ordinary thin aluminum foil, .00035" to .0005" thick is also vastly superior to asphalt coated paper in resisting the flow of water-vapor. Heavy aluminum foil, .0008" and thicker, is absolutely impervious to warm air, cold air or water-vapor. The ratio of superiority is infinity. The bursting strength is between 18 lbs. and 154 lbs. per sq. inch against ordinary foils 3 lbs. per sq. inch.

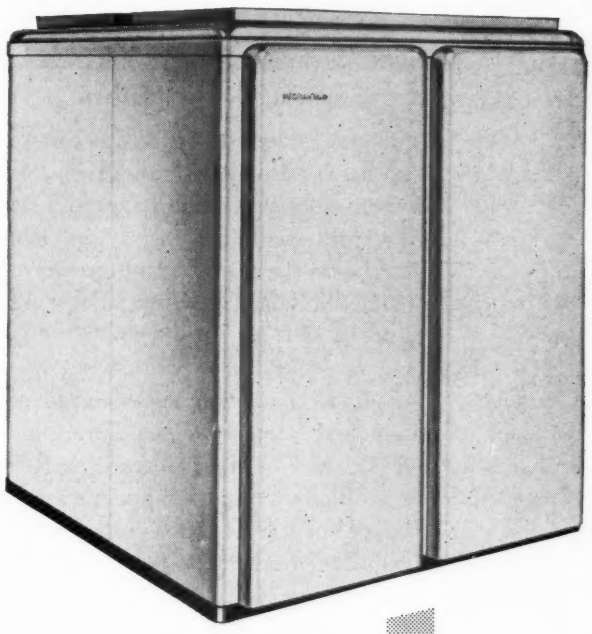
Finally and most important, we come to the question of radiation. From 65% to 80% of all the heat flow through wall spaces is by the invisible infra-red rays. It is therefore important to use an insulation in building spaces which will not absorb, and will not emit radiant heat. Multiple, compartmented aluminum sheets are an example of such a type. While most surfaces absorb more than 90% of heat rays, an aluminum surface will absorb only 3% to 5%. On the other side, most surfaces emit or radiate over 90% of the heat which is inside their bodies. An aluminum surface will emit or radiate no more than 3% to 5% of its heat. It is an efficient barrier to radiation.

The type of insulation described produces comfort, with real fuel savings, in the winter and pleasant conditions in summer, perhaps 10° cooler than in the shade outdoors.

The tough aluminum sheets also largely eliminate fire hazards. They cannot burn, their melting point being 1250° F.; ordinary furnace heat is 750° F. The accordion fiber separating the sheets is flame-proof, vermin-proof, mold-proof, and is completely protected, in addition, by the aluminum on both sides.

The accompanying illustrations show

50,000 BTU
65,000 BTU
70,000 BTU



90,000 BTU
100,000 BTU
140,000 BTU
200,000 BTU

A SIZE for Practically ANY Gas Fired Heating Installation . . .

Luxaire's CAST IRON Gas Fired Heating Units

Air Conditioning or Gravity

Now, every homeowner, builder and architect who prefers gas fired heating equipment with CAST IRON heating elements can obtain the most modern and advanced design in the Luxaire Line.

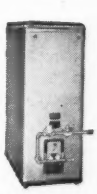
With Luxaire they obtain such superior features as (1) Round combustion chambers that expand and contract uniformly, (2) one-piece radiators, (3) the absence of objectionable, vertical joints and cemented joints, where combustion chamber and radiators connect.

In the Luxaire range of sizes from 50,000 to 200,000 BTU input per hour, there is one of these longer lived, high calibre furnaces for most heating requirements.

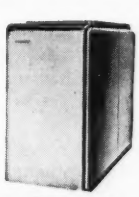
Luxaire Cast Iron, Gas Fired Units are surprisingly low in cost. To compare prices, get in touch with the Luxaire jobber nearest to you. Write us for his name, and catalogs describing the complete line of Luxaire heating equipment.

Series A Gas-Fired Steel Air Conditioning Unit.

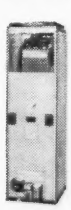
Series H Gas-Fired, Steel Utility Air Conditioning Unit.



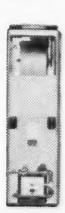
Series G Gas-Fired Gravity Furnace Available with Steel or Cast Iron Heating Element.



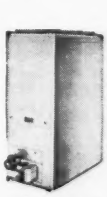
Series O Gun, Oil-Fired Air Conditioning Unit. Steel heating element.



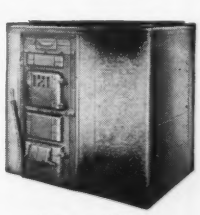
No. VHC-75-E Oil Counterflow Unit, for Slab Floor, Perimeter Heating.



No. HC-95-E Gas Counterflow Unit, for Slab Floor, Perimeter Heating.



Series C Coal-Fired, Cast Iron Furnace.



Series AC-F Coal-Fired Air Conditioning Unit. Steel Heating Element.

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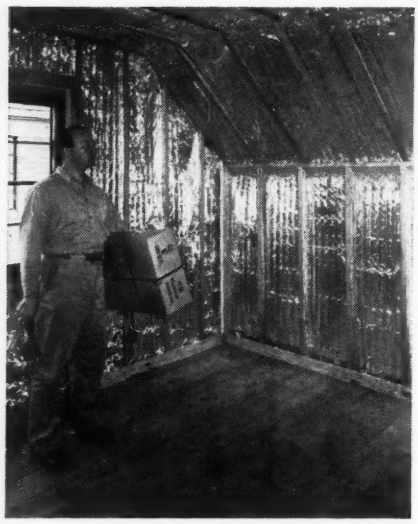
Luxaire — HEATING & AIR CONDITIONING UNITS

fueloil & oil heat



A 50 lb. carton *contains 1,000 sq. ft. of aluminum insulation.*

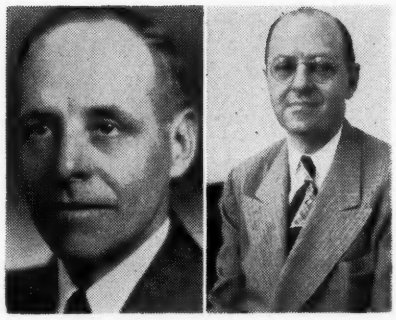
how simple it is to install this insulation, which comes in closed strips, 250 feet long. Without being opened, one flange is stapled the entire length of the ceiling beam, and then snipped off. The unattached flange is now opened three or four feet at a time and stapled in position.

The work is clean and sanitary. Both during and after installation the premises are left clean, with no irritating particles to annoy the skin, the eyes and respiratory tract. The cost of the insulation is competitive.

The public is sold on insulation. It should not be difficult to persuade a home owner to select the insulation which gives him maximum protection, economy and comfort. And it should not be difficult for the installer to realize the advantages of a product which brings him profit, is easy to install and handle, gives the customer lifelong satisfaction and builds good will.

◈

Leslie Bushfield, named general sales manager, Perfection Stove Co., Cleveland 4, Ohio, and the appointment of *Herbert C. Erhard* to succeed him as sales manager in charge of ranges and heaters, represent two shifts in personnel in the revamping of the company's sales division. Mr. Bushfield, a thirty year veteran with Perfection, started with the company's Canadian branch in 1920 and from 1944 to 1948 managed the At-



Bushfield **Erhard**

lanta, Ga., sales district. Mr. Erhard, who has headed the Acorn-Oriole sales division since Perfection acquired it last year, for twenty-five years was associated with the former manufacturer of the line, Standard Gas Eqpt. Co., Baltimore.

R. C. Keck has been appointed advertising and promotion manager, Cities Service Oil Co. (Pa.), succeeding *Robert S. Blount,* recently appointed sales manager of the Boston division. *E. W. Pembleton,* former division manager of the Kingston, N. Y., division, which has been consolidated with the New York division, has become division manager of the newly formed Richmond division.

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ONE OF THE GREAT NAMES IN THE OIL BURNER INDUSTRY!

You can install Johnson Burners with confidence that they will really save oil, and that their operating and maintenance costs will be low. Every burner we produce has been engineered to give that kind of service.

We've been building oil burners for 47 years. From the first, we have aimed at producing *more heat* from *less oil.* All our accumulated experience, all our engineering skill has been concentrated on that goal.

It's little wonder that the long-term performance of our burners is hard to equal . . . and that heating experts, the world over, have come to think of "Johnson Oil Burners" as one of the great names in the industry.

You'll find it's a good name to remember when you want heating equipment on which you may safely depend. There's a Johnson Burner for every need. We will gladly cooperate with detailed information.

...AND SOME FAMOUS JOHNSON TRADEMARKS

Bankheat Burners
Agulux Water Heaters
Econolux Heat & Hot Water Units
Selectair Air Conditioners
Aerolux Direct Fired Oil Furnaces
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940 Arlington Avenue, Oakland 8, Calif.
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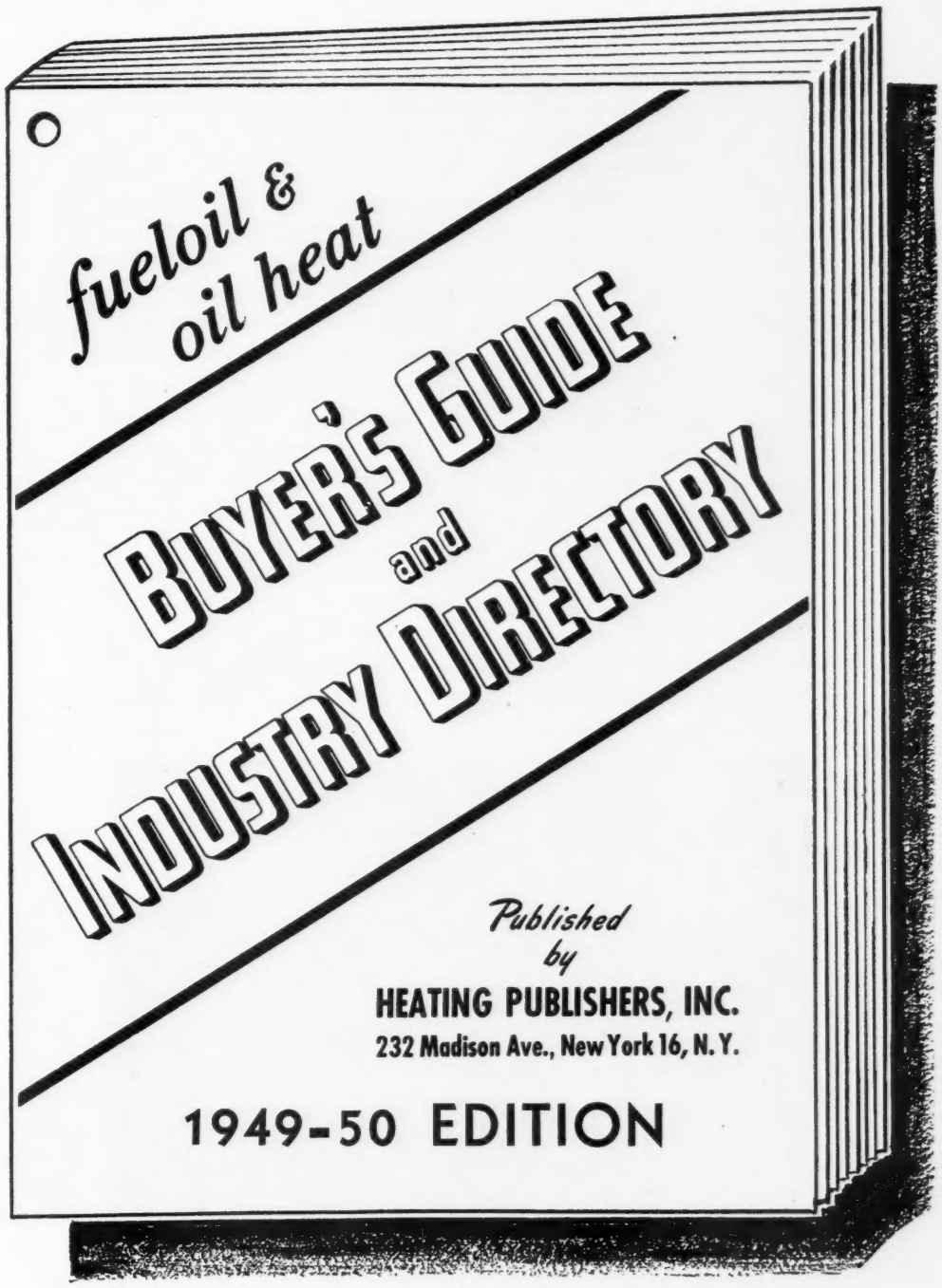
Johnson Oil Burners

Where the Heck Can I Buy IT?

NO need to get all hot and bothered in finding out where to buy something, especially items you need only occasionally. The BUYER'S GUIDE, directory of your industry, tells you where to buy anything oilheating men need. It's thoroughly cross referenced. Quickly and easily you can find out where to buy anything you use. If you're puzzled about such things as a diaphragm, a mixing valve, a heating coil, quick connectors for hose couplings, vent caps, vitrified clay pipes or rust solvents, the BUYER'S GUIDE has an answer for you about these and hundreds of items you require regularly.



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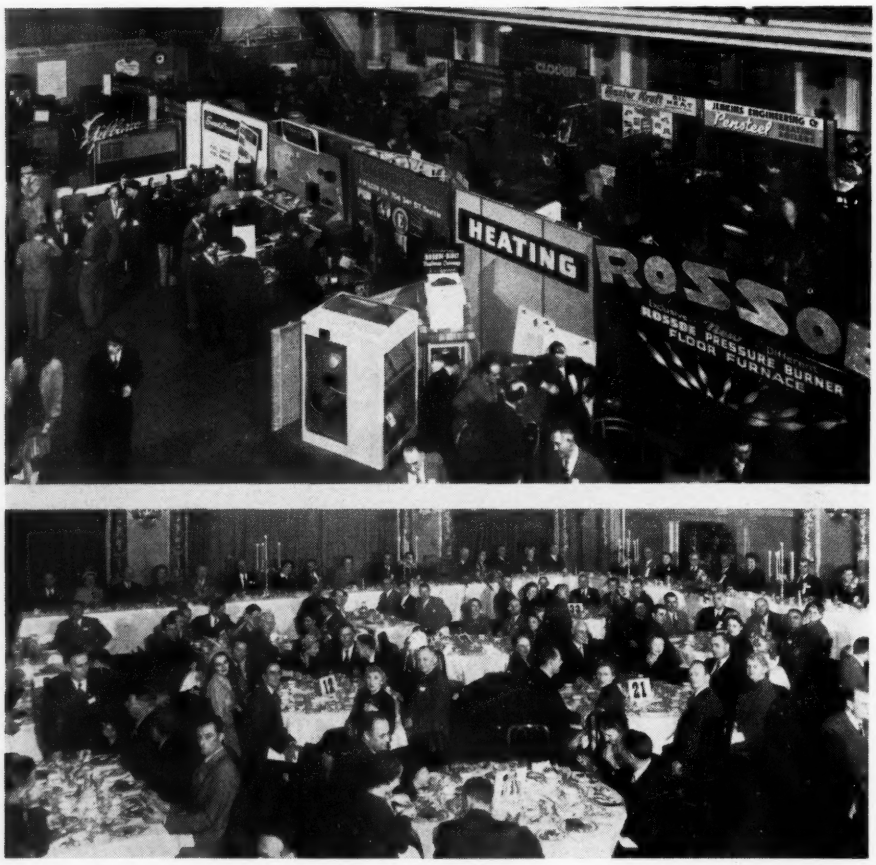
fueloil & oil heat

Successful West Coast Meeting Combined Sessions and Exhibits

COMBINING EXHIBITS, featuring oil-burners and allied equipment, with business and convention sessions resulted in a successful and fruitful three day gathering for those who attended the Pacific Coast Oil Heat Exposition and Convention Meeting, March 2, 3 and 4 at Seattle, Wash. The affair began on March 2 at Eagles Auditorium when the exhibits were officially opened, continued with equipment displays on March 3 and 4, concluded with the convention meeting and banquet at the Olympic Hotel on March 4.

The equipment displays were an innovation this year, prompted by the fact that so few of the West Coast dealers are able to attend the National Oil Heat Exposition because of the time and distance involved. A calculation of attendance at the auditorium justified the addition of display space when better than a thousand people an hour were clocked entering the hall. Robert Elmslie, manager of the Oil Heat Institute of Washington, hosts for the meeting, estimated that five hundred state and out-of-state dealers attended. Registrations included representatives from Washington, Oregon, California, Idaho, Montana and a delegation of forty from Vancouver, B. C., who attended all of the sessions.

OHI of Washington held its annual meeting of members during the morning of March 3 and elected officers for the fiscal year 1950-51. James Martin, Martin Fuel Co., Seattle, was named president; Paul H. Johansen, Diamond "B" Co., Bellingham, was elected vice-president and W. R. O'Rourke, Jr., O'Rourke Plumbing and Heating, Walla Walla, secretary. A. C. Jenkins, Jenkins Eng. Co., Seattle, was re-elected treasurer.



General views *of the exhibits and banquet of the March Pacific Coast Oil Heat Exposition and Convention Meeting, held in Seattle. The exhibits were housed in Eagles Auditorium, and were open on March 2, 3 and 4. The banquet, along with business meetings, was held at the Olympic Hotel.*

As hosts of the OHI of Washington, the ladies who attended were guests at a tour and tea on Friday afternoon, March 3. The tour started at the Olympic Hotel, took the ladies to points of interest in the city and ended at the Seattle Art Museum, where a conducted tour was arranged. Mrs. J. L. Brainerd, Mrs. S. G. Crate and Mrs. Robert G. Elmslie were on the Ladies' Entertainment Committee, and arranged also a luncheon at the Women's University Club on Saturday, March 4.

The convention program opened on March 4, with a morning session at which M. N. Vining presided as chairman. David Levine, president, Seattle City Council, extended official greetings for the City, followed by S. G. Crate, who reviewed briefly the accomplishments of the OHI of Washington and Oregon.

"Merchandising Programs Today" was the topic of the talk delivered by C. W. Lang, sales manager, Fuel Unit Dept., Sundstrand Machine Tool Co. He recommended that to insure successful merchandising the industry maintain adequate inventories at the retail level. He pointed out instances where sales have been lost because of lack of inventory when the customer was ready and willing to buy.

The next speaker, Howard Sisson, Standard Oil Co. of California, spoke on the "Prospects of Natural Gas in the Pacific Northwest." He discussed the scope of the Alberta field and cited figures of gas reserves. He concluded by pointing out to dealers the ammunition they had in selling completely automatic oil heat.

G. H. Whiteman presided over the afternoon portion of the Convention program and introduced each speaker with an appropriate story. C. E. Lewis, president, Perfex Corp., Milwaukee, Wis., delivered the first address, "A Short Look Backward; A Long Look Ahead." He discussed the fueloil supply situation, reviewed 1950 activities and spoke of trends in oil heat. The latter subject was divided into separately discussed sections of markets, equipment, sales and faith.

He was followed by W. O. Spiess, national secretary, Distribution Divi-

Yula

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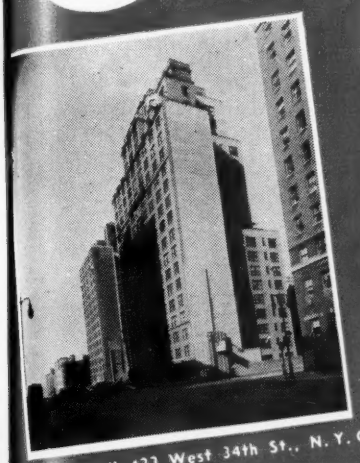
"Thermosyphon"

FUEL OIL HEATERS



Haddon Hall, 433 West 34th St., N. Y. C.

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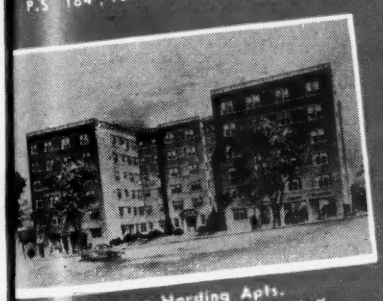

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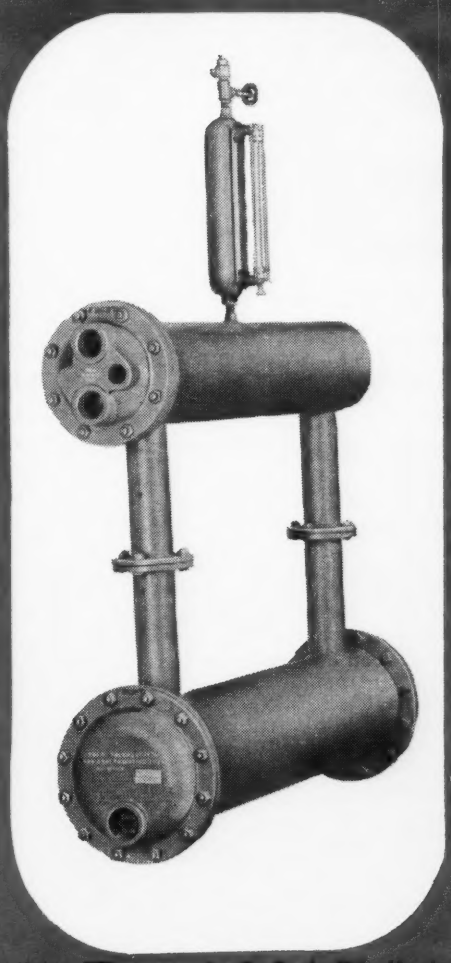
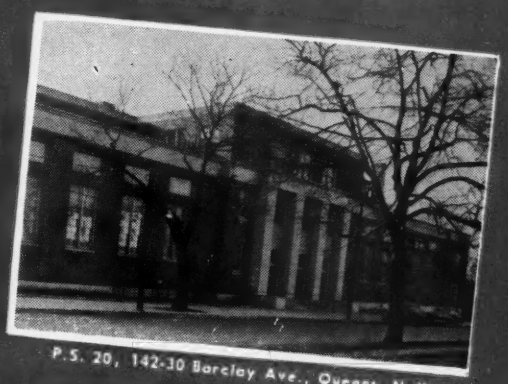


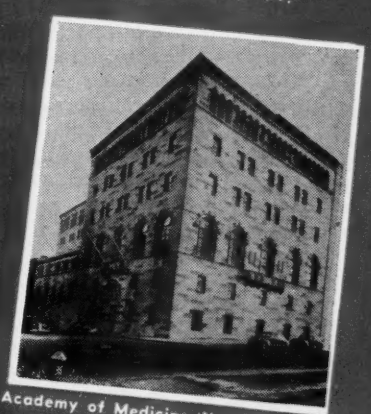
Yula "Thermosyphon" Fuel Oil Heaters equipped with expansion tanks are now standard equipment approved by the New York City Board of Standards and Appeals No. 85-49-SA. They have been specified for use in New York City public buildings. It is a recognized fact that "Thermosyphon" gives better performance than any other safety heater. Many leading oil burner manufacturers and installers have standardized on Yula "Thermosyphon" Fuel Oil Heaters.

WRITE FOR CATALOG 150



P.S. 20, 142-30 Barclay Ave., Queens, N. Y.

P.S. 115, 80-51 261st St., Queens, N. Y.



Academy of Medicine, New York City

400 West End Ave., New York City

Yula
WATER HEATERS, INC.
166 WEST 225 ST. • NEW YORK 63

ESTABLISHED 1926

sion, Oil-Heat Institute of America, who covered local chapter problems throughout the country, competition from other fuels and how it is being met in other areas.

Arthur M. Cannon, C.P.A., College of Business Administration, University of Washington, was the final speaker and delivered a well received address on "Using Accounting in Business."

The concluding address was followed by a question and answer period in which all speakers participated.

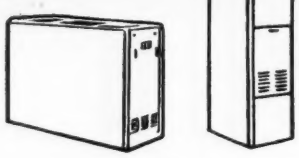
Following a brief interlude at the end of the session, a social hour was held, immediately preceding the banquet and entertainment, final activity of the day. An attendance of three hundred and fifty was recorded at the banquet. Guests and officers seated at the head table were introduced, after which a program of professional entertainment was presented.

Arrangements for the Exposition and Convention Meeting were under the supervision of S. G. Crate, general chairman. W. G. Warrington was chairman of the entertainment committee and Robert G. Elmslie was in charge of the program.

"Well, at least your boss gives ya some time off occasionally!"

"EXTRA VALUES AT COMPETITIVE PRICES MAKE HART HEAT A REAL DEALER PROFIT LINE"

EARL K. SMITH
Owner



A COMPLETE LINE FOR OIL OR GAS

ASME
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WARM AIR

Hart Heat offers oil-fired or gas-fired winter air conditioners and gravity furnaces. Outputs range from 75,000 to 148,000 Btu/hr. . . . with pressure oil, gas, vaporizing oil, or combination gas or vaporizing oil burner. All-steel, welded heat exchanger. Easy-to-demonstrate efficiency and economy. Easy to install. Sizes up to 100,000 Btu/hr. shipped assembled.

BOILER-BURNER UNITS

Hart oil or gas-fired Boiler-Burner units feature dollar-saving all-steel "tube within a tube" percolating principle with one square foot of heating surface for every gallon of water. All HART HEAT boilers bear ASME code stamp. Conservatively rated.

For forced or gravity circulation in radiant panel, baseboard, conventional or other application. Domestic hot water coil original equipment or added later. Easy installation. Shipped fully assembled.

FAMOUS HART HEAT OIL BURNERS

Hart Oil Burners are recognized industry-wide for faithful, efficient operation. 28 years of steady, constantly improved Hart production have perfected a cost-cutting mass production system that still gives you these important selling advantages: precision machining for long life; balanced and matched components for silent operation. One basic chassis for two capacity ranges—0 to 3 g.p.h., 3 to 6 g.p.h.; three tube lengths—8", 14" and 18"; two mountings—flange or leg. Complete flexibility for every application—conversion or unit.

Smitty says:
"Are you a serious-minded distributor or dealer? Are you in territory where HART HEAT is at present not represented? If so, I am sincerely interested in you. Write me. Together we'll work out the best agreement you've ever been offered."—Earl K. Smith.

HART HEAT PEORIA, ILLINOIS
DIVISION OF AVERY FARM MACHINERY CO.

Lahee Cites Huge Oil and Gas Reserves

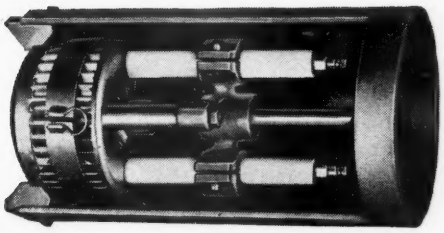
SPEAKING AT THE MEETING of the Southwestern District, American Petroleum Institute's Division of Production, March 9 in Dallas, Texas, Frederic H. Lahee, geological and research counselor, Sun Oil Co., and chairman of API's committee on reserves, said the North American Continent contains many billions of oil and trillions of cubic feet of gas in reserves that are not yet proved. He criticized the common practice of using the term "reserve" without defining exactly how the term is being used and deplored the habit of dividing year-end reserves by that year's production to obtain the number of years of remaining supply.

To demonstrate the absurdity of this practice, Mr. Lahee pointed to the climb in estimated reserves from 5 billion barrels in 1921 to 23 billion barrels in 1948, despite actual oil production of more than 17 billion barrels during the period.

Persons using figures or estimates of oil and gas reserves, he urged, should understand that "the reported proved reserves, as of any specified date, will require a great many more years for their extraction from the ground than the reserves-over-production quotient." Also, ". . . at any given date, for a great many years to come, in addition to the proved reserves of that date there will be large quantities of possible reserves, some discovered and some to be discovered; and also large quantities of hypothetical reserves subsequently proved.

At the Show visit the...

MONARCH Booth 441



G 74 ALL METAL COMBUSTION HEAD

The Monarch Head will produce high combustion efficiency, but for completely automatically controlled burners we do not recommend field settings at peak CO_2 readings. It is better to set the CO_2 between 10% and 13% and have a clean smokeless fire than it is to set it up to 13% to 15% CO_2 and take chances on the combustion conditions changing materially if there is a change in draft, oil, etc.

This equipment is offered not only to oil burner Dealers to make old burners more efficient, but it can also be used by oil burner Manufacturers as original equipment.

NOTE These "Big 4" Features:

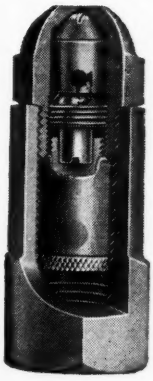
1. Produces a highly efficient, controlled flame.
2. Easy to install—right on the job.
3. No external adjustments with which to tinker.
4. Actually costs less than a good fuel unit.

WRITE FOR CIRCULAR #10749

MONARCH BURNER NOZZLES—

Years of improvements—combined with accuracy and skill frequently permit "tailoring" of spray characteristics to meet burner requirements, should some one of our many "specials" not meet conditions of test.

Preferred Because:



1. Each nozzle is individually tested and checked for capacity against the flow of a calibrated master sample. Capacity tolerances are as low as plus or minus 2½%.
2. Standard nozzles will fire most gun type high pressure burners satisfactorily. (Special series are also available for burners requiring specified spray characteristics.)

MONARCH AIR CONES AND STABILIZERS HAVE PROVED THEIR SUPERIORITY

Numerous field tests on various well known makes of burners have proved Monarch equipment to be superior.

Best results are obtained by use of air cone and stabilizer together. A number of burner manufacturers have adapted this equipment and we know that RESULTS are obtained when properly used.

Pulsation can usually be overcome by using special stabilizers H-451 with standard F-57 cones and F-80-R 80° nozzles. Under no conditions will equipment be sent on approval or be subject to return.

Write for Circular No. 51849 on our "Anti-Pulsation" equipment.

STABILIZERS

AIR CONES

Write for Catalogue D

MONARCH MANUFACTURING WORKS, INC.

2503 E. ONTARIO ST. **PHILADELPHIA 34, PENNA.**

European Distributor: A. Coutau, Rue de la Scie No. 16 Geneva, Switzerland

Ask Restrictions On New England Gas Line

EAST TENNESSEE NATURAL GAS COMPANY has asked that Tennessee Gas Transmission be granted permission to extend its lines to New England only if 40,000 mcf per day of the increased capacity is diverted for use in the Bristol-Johnson City area. The action, indicative of the fear that the proposed extension might cause shortages in other areas, was presented in a joint action by East Tennessee, Bristol, Va., Bristol, Tenn. and Elizabethton, Tenn., along with several local gas utilities.

◈

Influence of Electrification On Farm Appliance Sales

ON THE BASIS OF RETURNS from 9500 questionnaires mailed to subscribers of the *Midwest Farm Papers* in May 1949, 49% of all electrified homes were found to have central heating, while 11% of the homes not yet electrified were so equipped. Electricity has been installed in 89% of the homes in the area surveyed.

"I'd like a complete financial statement of the business, as of today. The boss's son proposed to me last night"

All homes in the eight states covered by the survey reported 44.5% had central heating, contrasted with a total of 48.5% of homes with electricity.

The following table shows the breakdown by states of the percentage of all homes equipped with central heating and the percentage for those with electricity. The type of heating also is shown in percentages:

Central Heating	*All Homes*	*Homes with Electricity From Any Source*
Illinois	49.1%	53.6%
Steam or hot water	7.0	7.7
Hot air furnace ..	40.3	44.0
Type not answered	1.8	1.9
Indiana	41.3	44.0
Steam or hot water	4.5	4.8
Hot air furnace ..	34.0	36.2
Type not answered	2.8	3.0
Iowa	49.4	51.9
Steam or hot water	5.3	5.6
Hot air furnace ..	41.9	44.1
Type not answered	2.2	2.2
Wisconsin	52.0	53.6
Steam or hot water	7.3	7.5
Hot air furnace ..	42.4	43.8
Type not answered	2.3	2.3
Minnesota	35.4	39.5
Steam or hot water	3.7	4.3
Hot air furnace ..	28.7	32.0
Type not answered	3.0	3.2
Nor. & So. Dakota .	37.3	46.6
Steam or hot water	4.4	6.2
Hot air furnace ..	30.2	37.2
Type not answered	2.7	3.2
Nebraska	37.2	43.7
Steam or hot water	3.0	3.5
Hot air furnace ..	29.8	35.0
Type not answered	4.4	5.2

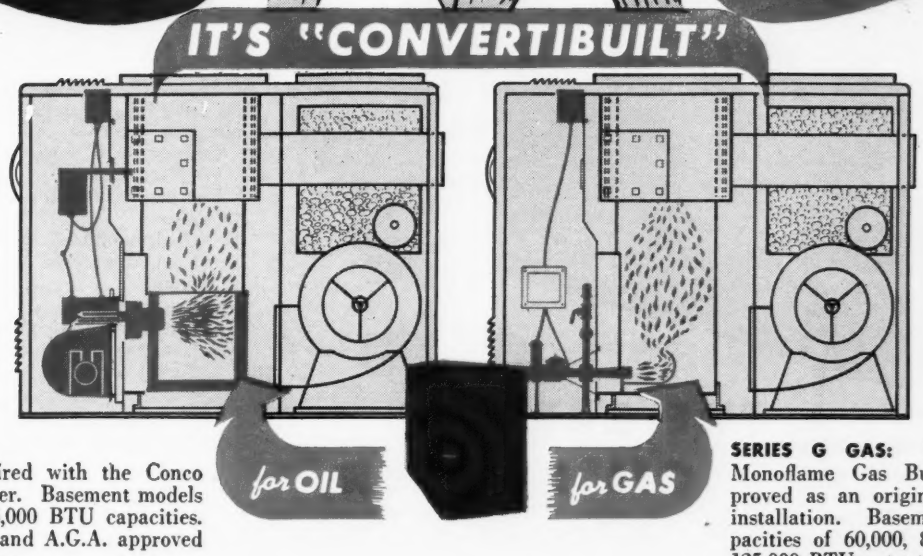
These percentage figures on central heating systems illustrate graphically the preponderance of warm air heating preference in this area, and, coupled with the other findings reported in the survey, highlight the fact that farms become prime prospects for all major appliances when electricity from some source is made available.

SMASH HIT!
KANTLEAK KITS
FOR OIL TANK INSTALLATIONS
THE RESULT OF MANY YEARS EXPERIENCE AND RESEARCH
TROUBLE FREE
LOW COST
COMPLETE IN ONE PACKAGE
KANTLEAK Kit
SINGLE HOOK-UP
DOUBLE HOOK-UP
THE PACKAGE THAT PACKS A WALLOP!
"KantLeak Kits" combine the proper fittings and filter to meet your needs. Custom designed, complete in one package, bringing in new sales and satisfying your present customers. With every sale and every installation . . . complete customer satisfaction.
KANTLEAK PRODUCTS
ANDERSON BRASS COMPANY
5305 TWELFTH STREET • DETROIT 8, MICHIGAN

CONCO heat CONCO's Stepping Out with the NEATEST TRICK OF THE YEAR

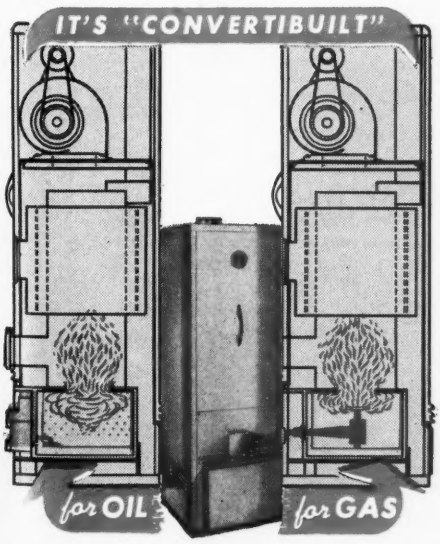
"CONVERTIBUILTS"

BUILT FOR OIL OR GAS ... OR OIL NOW ... GAS LATER

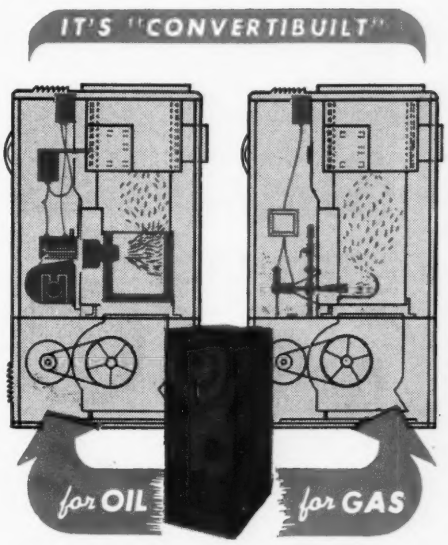


SERIES M OIL: Fired with the Conco Magic Spray Burner. Basement models in 80,000 and 105,000 BTU capacities. Both U. L. listed and A.G.A. approved for oil or gas firing.

SERIES G GAS: Fired with Conco Monoflame Gas Burner. A.G.A. approved as an original or ultimate gas installation. Basement models in capacities of 60,000, 80,000, 100,000 and 125,000 BTU output.



COUNTER-FLOW HI-BOY: Specially designed for under-floor-duct heating in basementless homes. Extremely compact. Approved for oil or gas firing, or oil now and gas later. 64,000 BTU at bonnet, oil or gas.



HI-BOY CONDITIONER: Designed to carry full approval for either oil or gas firing, or oil now and gas later. Capacity, oil or gas fired, 80,000 BTU at bonnet. For hall, closet, or utility room installation.

Step Out with CONCO

WRITE today for full information on the Conco line and franchise. Conco "Convertibuilt" models are 1950's best line — the neatest trick of the year. Assure a profitable future now, with a CONCO FRANCHISE.

CONCO ENGINEERING WORKS
Division of
H. D. Conkey & Company
MENDOTA 4, ILLINOIS

Richard T. Demarest has been named market analyst, MOR-SUN Furnace Div., Morrison Steel Products, Inc., Buffalo, N. Y. As such he will analyze marketing problems and assistant merchandisers in their sales efforts. Mr. Demarest has been with Fitzgibbons Boiler Co. for the past ten years, with experience in all phases of sales promotion, marketing and research. The on-the-spot local market analyses that Mr. Demarest will prepare are to supplement the regular literature and other sales aids the company furnishes.

Jerry B. Vaden has been named district sales manager with headquarters at Raleigh, N. C. for the Jet Tobacco Curer made by American Machine & Fdry. Co., New York 17, N. Y.

Bartholomew L. Hallinan, a pioneer Boston oilburner dealer, died on February 13. In addition to his long association with the industry, he was one of the organizers of the original Boston Oil Burner Associates, now the Massachusetts Oil Heating Association.

THE BETTER OIL BURNER!

PRINCIPLE. Combustion head, with *vertical* nozzle, is located *inside* the firebox. Pressure air, guided by "Swirlator", mixes with oil vapor to produce highly turbulated mixture and a swirling ball of flame.

CONSTRUCTION. Conventional motor - fan - pump unit supplies air through square draft tube. Oil line and ignition bus bars run inside draft tube. Combustion head cover is instantly removable for access to nozzle and electrodes.

ECONOMY. Laboratory tests and checks on thousands of installations show higher efficiency and substantially lower fuel costs. Performance is achieved through superior combustion and faster, more uniform heat distribution.

FEATURES. No refractory combustion chamber is used, heat being radiated directly by ball of fire. With cooled combustion head, and no intense heat throw-back from red-hot chamber at cut-off, *electrode carbonization and nozzle coking are prevented by eliminating the conditions that cause them.*

MARKET. Live customers are waiting for the superior performance that Swirling Heat can deliver! *We are looking for live, experienced dealers who will welcome a line of better burners.* Let's get together!

- NO COMBUSTION CHAMBER REQUIRED
- NO CARBONIZING ON NOZZLE OR IGNITION POINTS
- HIGHER CO_2 — GREATER EFFICIENCY
- INSTALLATION PROBLEMS GREATLY SIMPLIFIED

Combustion head, with lift-off cover removed, showing nozzle mounting, ignition contacts and rings, and bottom of Swirlator plate.

Write for Literature!

See the new ½ to 1 GPH model at Booth 624

SWIRLING HEAT CORPORATION, 1775 BROADWAY, NEW YORK 19, N. Y.

RESEARCH LABORATORIES: 2818 N. WASHINGTON BLVD., ARLINGTON, VIRGINIA

SINCE 1929

Magazine Surveys Farm Heating Market

NINE PERCENT, or 112,000 families, among the group covered in *Successful Farming* Magazine's 1949 survey, stated they plan to buy new heating systems within a year. The same survey disclosed that 29%, or 361,000 families, had bought new heating systems during the last three years, 100,000 families have installed thermostatic control during the last three years and 25,000 plan to add it this year.

A tabulation of data uncovered by the survey shows:

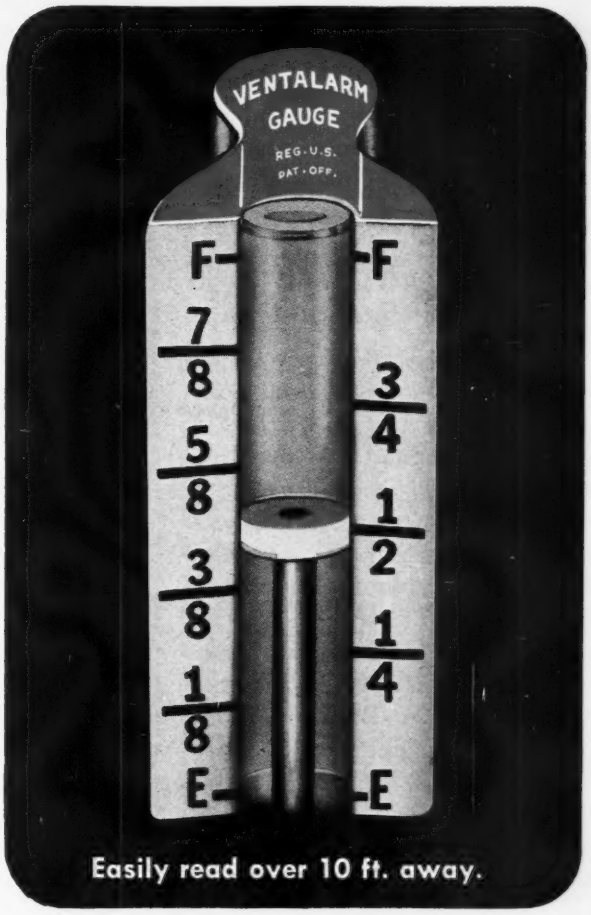
	Percent of group who:	
Type of heating system	*Bought During Last 3 Years*	*Plan to Buy Within A Year*
Central heating	39%	38%
Warm air with blower	22	19
Warm air without blower	12	10
Steam vapor or hot water	5	9
Space heater (cabinet type)	19	4
Heating stoves	32	10
Floor furnace	8	19
Conversion oilburner	4	3
Fireplace	4	7
Fuel used in new heating system		
Coal, handfired	29	—
Coal, stokerfired	4	28
Fueloil	47	46
Gas, pipeline	2	9
Gas, LP (bottled)	10	9
Coal or wood	11	3
Wood	10	4

Another section of the survey on water heating revealed that 12%, or 149,000 families who read the magazine plan to install new units within the next year and that 25%, or 311,000 families, had done so with the past three years. Another tabulation on these data follows:

	Percent of group who:	
Type of water heater	*Bought During Last 3 Years*	*Plan to Buy Within A Year*
Automatic	89%	93%
Nonautomatic	11	7
Fuel used in water heaters		
LP gas (bottled)	25	11
Electric	69	68
Gas (pipeline)	7	2
Oil	16	3
Other	13	7

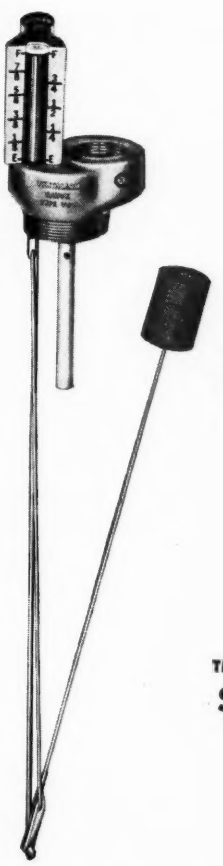
Francis S. Russell, president, R C S Tool Sales Co., Joliet, Ill., has been added as a member of the advisory board, Plant Maintenance Show. The exposition is planned for the Cleveland Auditorium, Cleveland, January 15 to 18, 1951.

LOOK-
Terrific
VISIBILITY



Easily read over 10 ft. away.

ACTUAL SIZE



You asked for greater gauge visibility. Here it is in the . . . .

NEW 1950 MODEL
VENTALARM® GAUGE

See this 1950 Model VENTALARM GAUGE at the **NATIONAL OIL HEAT EXPOSITION** in Philadelphia. April 24 – 28 **BOOTH 200**

Thanks for the great business you gave us on VENTALARM GAUGE last year. We know that this bigger and better indicator design will please you even more! Easy to install. Adjustable for all angles.

Available for 275 gal. cellar tanks with depths of 22", 24", 27", 42", 44" and 47". Specify tank depth and tank opening when ordering from your regular Supply House.

TRADE PRICE
$2.95

SIZES:
VG-A, 2" x 1¼"
VG-B, 1½" x 1¼"

Fully protected by U. S. and Foreign patents.

SCULLY SIGNAL COMPANY
76 First Street, Cambridge 41, Mass.

VENTALARM®
WHISTLING TANK FILL SIGNAL

APPROVED BY UNDERWRITERS' LABORATORIES, INC.

Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Groups' activities to reach the editor by the 18th.

Baltimore Association Holds Successful Rally

A MASS MEETING, sponsored by the Oil Heat Association of Md., Inc., Baltimore 1, Md., was held on March 15 at the Maryland Casualty Co. Auditorium and was attended by more than a thousand persons. They included drivers, service men, salesmen, office and other employees of oilburner and fueloil dealers who contact the public, the purpose of the meeting being to indoctrinate them with the facts about the automatic heating situation in Baltimore.

As part of an intelligent and comprehensive program to combat gas competition, the Association arranged the meeting with the idea of turning each employee into a full-time salesman for oilheating. Chief speakers were Robert Gray, editor, FUELOIL & OIL HEAT, and J. R. Sherwood, Sherwood Bros., Baltimore.

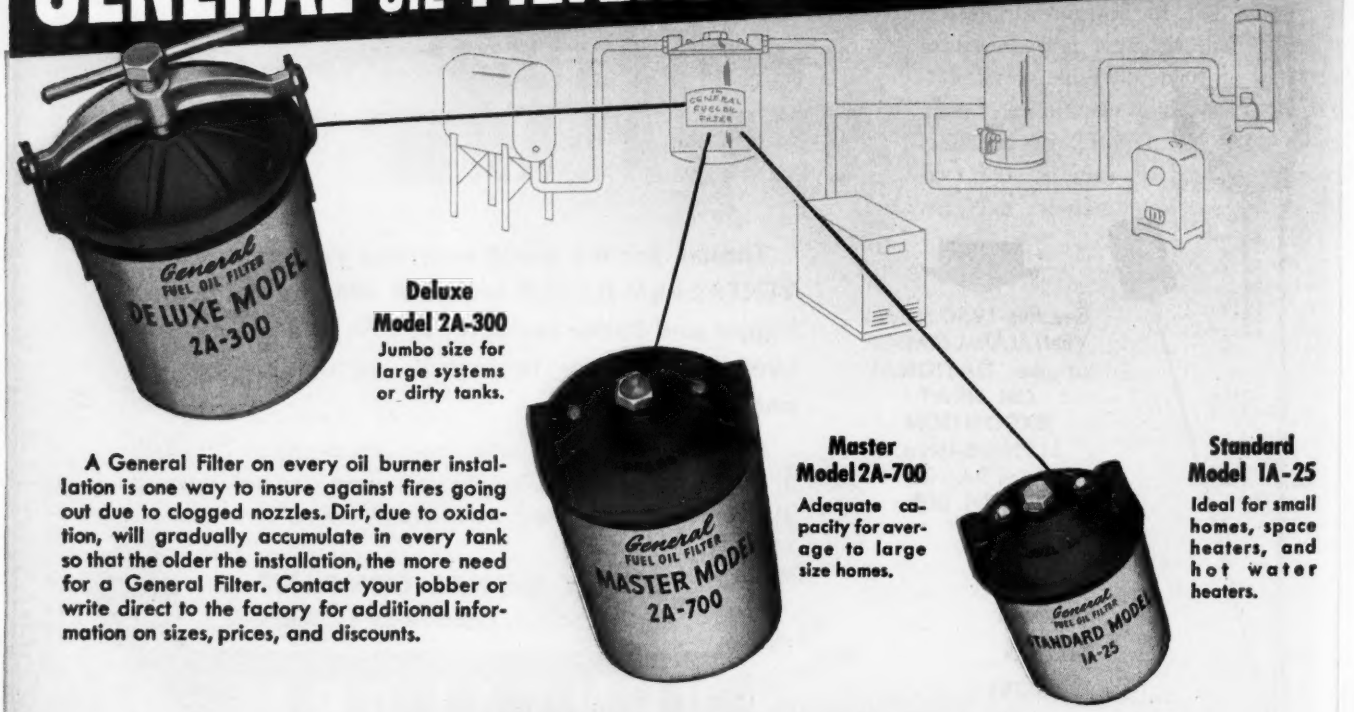
Audience *listening to speakers at Baltimore Industry Rally.*

The significance of the meeting lies in the fact that a large number of employees, who normally do not participate actively in Association doings, were induced to attend and receive a refresher course that enables them to sell the merits of oilheat.

Massachusetts Meeting Hears Talk by Richdale

THE REGULAR DINNER MEETING of the Massachusetts Oil Heating Association, Watertown 72, Mass., was held March 21 at the Lafayette Hotel, Boston. Featured speaker was June C. Richdale, president of the New England Council and New England manager, Esso Standard Oil Co. Active in the Council for the past ten years and its president since

GENERAL FUEL OIL FILTERS ARE SURE FIRE



Deluxe
Model 2A-300
Jumbo size for large systems or dirty tanks.

Master
Model 2A-700
Adequate capacity for average to large size homes.

Standard
Model 1A-25
Ideal for small homes, space heaters, and hot water heaters.

A General Filter on every oil burner installation is one way to insure against fires going out due to clogged nozzles. Dirt, due to oxidation, will gradually accumulate in every tank so that the older the installation, the more need for a General Filter. Contact your jobber or write direct to the factory for additional information on sizes, prices, and discounts.

GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTERS
12890 WESTWOOD AVENUE
DETROIT 23, MICHIGAN
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVE., TORONTO, ONTARIO

Visit us AT BOOTH 133, *National Oil Heat Exposition, April 24-28*

FUEL COSTS GREATLY REDUCED... SAY OWNERS

Show Cost-Conscious Commercial and Industrial Oil Burner Users How to Cut Costs With an Economically Operating

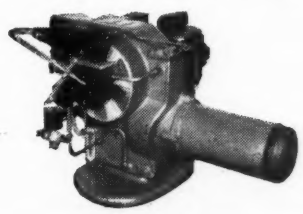
Cleaver-Brooks

HEV-E-OIL BURNER

USING LOW-COST NO. 5 OIL

Quick sales and profits are yours when you offer your customers and prospects a chance to cut operating costs using low-cost, high heat value No. 5 fuel oil.

The economically operating Cleaver-Brooks Hev-E-Oil Burner efficiently using low-cost No. 5 oil, assures substantial savings to hundreds of commercial and industrial oil-burner users in stores, factories, green houses, apartments, small laundries, cleaners, dyers, pressers, and processing establishments of all kinds.



Write today—for complete dealer and distributor information.

CLEAVER-BROOKS COMPANY

363 E. Keefe Ave., Milwaukee 12, Wis.

"—Our heating costs have been appreciably reduced in comparison with previous coal operations in our 24-apartment building—total yearly savings $1,077.25. On the basis of such savings, we have installed a total of six Hev-E-Oil burners and are obtaining a worthwhile fuel saving in all of them. We are quite pleased with the freedom from mechanical breakdowns of these units."

•

"—very pleased with the performance and economy, as well as quietness in operation—operating cost of oil burner is $145 for twelve months heating the building and domestic hot water—previous expense coal firing by hand was $165 for heating the building only."

•

"—very much impressed with your 50 per cent saving by burning No. 5 fuel oil — previous oil burner installation burned a standard No. 3 oil."

•

"—have had very good satisfaction—the upkeep expense almost negligible—heartily recommend this burner."

•

"—The burner has worked perfectly and quietly—we have enjoyed the most economical heating season I have experienced in this building."

HEV-E-OIL-BY-CLEAVER-BROOKS

Dealers wanted for Greater New York, Virginia, Maryland and District of Columbia

Mr. Light Oil Burner Dealer!

Start today to sell *the* commercial and industrial burner. Burns low cost No. 5 oil—a saving of 3c to 4c per gallon over light oil. The installation of a Hev-E-Oil Burner is no different from the highly competitive light oil domestic burner. M&H RA-117A Relay—pressuretrol—thermostat—all electric ignition—no gas—no boiler plate—no pitting.

We stock the burners and parts—also give sales and engineering help. We do not sell to supply houses—only franchised dealers.

The Hev-E-Oil Burner dealer sells a quality burner at a quality price—this is your opportunity to larger volume and greater profits.

STOP! AT THE CLEAVER-BROOKS HEV-E-OIL BURNER BOOTH NO. 526 AT THE OIL HEAT SHOW, PHILADELPHIA, APRIL 24th thru 28th.

WRITE OR CALL **HEAVY OIL BURNER DISTRIBUTORS**

General Motors Building, Suite 764

(Fordham 5-3788) **NEW YORK 58, NEW YORK** **(Circle 7-1234)**

1948, Mr. Richdale was well qualified to discuss "New England Economic Trends," the topic of his talk.

Twin City Petroleum Club Elects Officers

AT THE ANNUAL MEETING of the Twin City Petroleum Club, Minneapolis, Minn., the following were elected for a one year term: President, F. J. Schiefelbein, Midwest Oil Co., Minneapolis; treasurer, John L. Locke, Locto Co., St. Paul; secretary, H. F. Horning, Minneapolis. Three members were elected to serve terms on the board of directors. They are: Clarence W. Johnson, Rex Oil Co., St. Paul; Tom H. Gemlo, Petroleum Service Co., Minneapolis and S. H. Burnap, Direct Service Oil Co., Minneapolis.

Thulman Addresses Meeting Of Washington Institute

THE MARCH LUNCHEON MEETING of the Oil-Heat Institute of Greater Washington, Washington 5, D. C., featured an address by Robert K. Thulman, mechanical engineer, Housing and Home Finance Agency, Federal Housing Administration.

In a talk, arranged for dealer members in general and their service managers in particular, Mr. Thulman discussed "Commercial Standards" of installation and how they can be used to improve the oilburner dealer's position with gas competition.

Move Headquarters of Chicago Associations

RELOCATION of headquarters of the Burning Oil Distributors Association and the Chicago Oil Burner Association has been announced. Both have moved to the Sheraton Hotel, 505 N. Michigan Avenue, Chicago.

New England OHI's Annual Meeting Hears Talk On Gas

L. A. CASLER, public relations counsel, Oil-Heat Institute of America, Inc., was a featured speaker at the industry luncheon, part of the program of the annual meeting of the Oil-Heat Institute of New England, Boston, Mass., held on March 14 at the Hotel Statler. He devoted his talk to a discussion of the effect of natural gas in areas where it is competing with oilheating. Second speaker on the luncheon program was The Honorable Harold C. Kessinger.

Preceding the luncheon the Institute held its annual meeting and heard a report from retiring president William F. Briggs, reviewing accomplishments and activities of the past year. The following directors were elected unanimously for three-year terms: Edward H. Bowen, Joseph A. Bowen Co., Fall River, Mass.; Donald F. Copeland, Framingham Coal Co., Inc., Framingham, Mass.; George F. Corsiglia, George V. Corsiglia Co., Greenfield, Mass.; Augustus L. Dwelley, Automatic Htg. Corp., Boston; Don P. Hobbs, Morton Oil Co., Malden, Mass.; William H. Macurda, Tenney Coal Co., Concord, N. H.; Max Seltzer, Seltzer & Co., Boston, Mass.; Joseph F. Walsh, Thomas D. Russo, Inc., Roslindale, Mass.

At the annual directors' meeting, held at the conclusion of the annual meeting, Joseph F. Walsh, Thomas D. Russo, Inc., Roslindale, Mass., was named president of the Institute; Jo-

LYNN
POWER OIL BURNER

Lynn's Exclusive "Spiral-Ex" head

Model I F

BURNS CATALYTIC OILS *Efficiently*

Lynn is designed to burn 100% catalytic oils as well as present oils—and burn them with clean, fuel-saving efficiency. Lynn's Spiral-Ex head is the secret—an exclusive Lynn development that eliminates complicated adjustments. The adjustment of air and the co-ordination of oil spray and air are made with the burner under fire. Five models, capacity .65 to 15 G.P.H. Tested and proved in hundreds of New England installations . . . Build steady profits with Lynn.

See the Lynn at booth 623, National Oil Heat Exposition, Philadelphia, April 24-28. Write for information about distributor and dealer territory.

LYNN PRODUCTS COMPANY
Box 531 Lynn, Massachusetts
Manufacturers of Oil Burners Since 1922

"I'm from Missouri... but a **B&W FIREBOX** *Sold Me!"*

Contractor "X" was "from Missouri." When he converted a home firebox from ordinary firebrick to light weight B&W Insulating Firebrick, he had to be shown. A year later, he was convinced . . . *by the facts!*

The new B&W IFB Firebox was far more efficient. It reached combustion temperatures in a fraction of the time required with ordinary firebrick. The owner was no longer troubled by furnace roar. Most important of all, his fuel bills were substantially *lower*.

This performance sold the contractor so solidly on B&W Fireboxes that he will install them exclusively on all future jobs. It will pay you, too, to build better fireboxes and increase customer satisfaction. Send today for your free copy of the B&W Firebox Handbook with complete details on Better Fireboxes of B&W Insulating Firebrick.

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.

R-361

B&W REFRACTORIES PRODUCTS – B&W 80 Firebrick • B&W Junior Firebrick • B&W 80 Glass Tank Blocks • B&W Insulating Firebrick B&W Refractory Castables, Plastics and Mortars • OTHER B&W PRODUCTS – Stationary & Marine Boilers and Component Equipment... Chemical Recovery Units... Seamless & Welded Tubes... Pulverizers... Fuel Burning Equipment... Pressure Vessels... Alloy Castings

seph Olney, Jr., Olney & Payne Bros., Pawtucket, R. I., and C. Everett Elliott, Charles L. Elliott Co., Danvers, Mass., were elected first and second vice-presidents, respectively. Fred N. Beckwith was re-appointed secretary-treasurer.

Named to the executive committee were Joseph Olney, Jr., chairman; August L. Dwelley and Fred W. Heaney, Buckley & Scott Utilities, Watertown, Mass. Thomas G. Colter, Dole Valve Co., Boston and L. U. Giannettino, Jr., Bell Pump Service Co., Hartford, Conn., were designated representatives of associate members.

API Marketing Division To Meet At Kansas City

THREE MEN, prominent in petroleum marketing circles, will be among the speakers at the midyear meeting of the Division of Marketing, American Petroleum Institute, New York 20, N. Y. To be held at the Muehlebach Hotel, Kansas City, April 24-25, the meeting will be open to members as well as non-members and is intended to focus attention on current problems facing petroleum marketers.

J. Howard Marshall, API vice president for the Marketing Div., and president, Ashland Oil and Refining Co., will preside.

Oil Conference Names Oilheating Committee

AS THE RESULT of a two-day meeting sponsored by the Atlantic Coast Oil Conference at the Hotel Roosevelt, New York, March 15 and 16, an interim committee has been named to formulate an extensive program to sell the benefits of modern oilheating to the American consumer. Forty representatives of petroleum associations along the Eastern Seaboard attended the conference and approved the appointment of an Oil Heating Council.

This committee, organzied to function as a part of the Atlantic Coast Oil Conference, outlined a tentative four-point program, which is subject first to the approval of the Conference board of directors and to subsequent approval of association members. The program proposes:

"1. Education of the public to the advantages of oilheat through the development of advertising policies and plans, (a) for direct placement through a central committee and (b) for local programs;

"2. Development of promotional plans to sell the new home market;

"3. Development of a sales training program, and

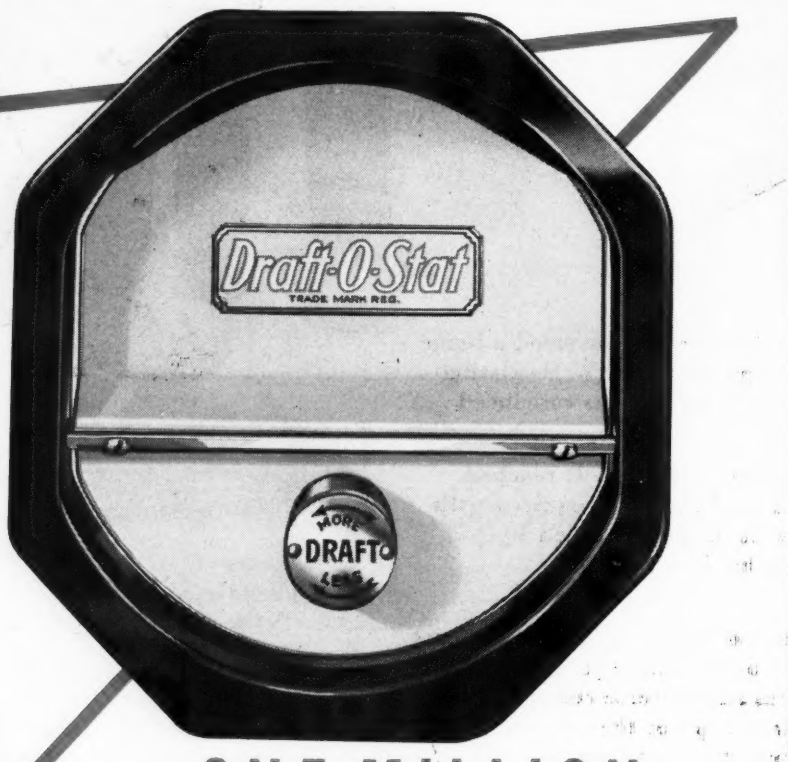
"4. Fostering of higher standards and practices within the oilheating industry through (a) the development of responsible inspection service and (b) the encouragement of industry-wide adoption of undivided responsibility to the consumer."

The plan calls also for the creation of groups or associations to function at the local level where they do not exist at present, and for the establishment of sub-committees at the central coordinating point and the local level.

Truck Tank Institute Elects At Annual Meeting

AMONG THE ACTIVITIES at the annual meeting of the National Truck Tank and Trailer Tank Institute, Chicago 3, Ill., held February 23 and 24, was the

There is only ONE
TRADE MARK REGISTERED
Draft-O-Stat
BAROMETRIC DRAFT CONTROL
AND HOTSTREAM MAKES IT!



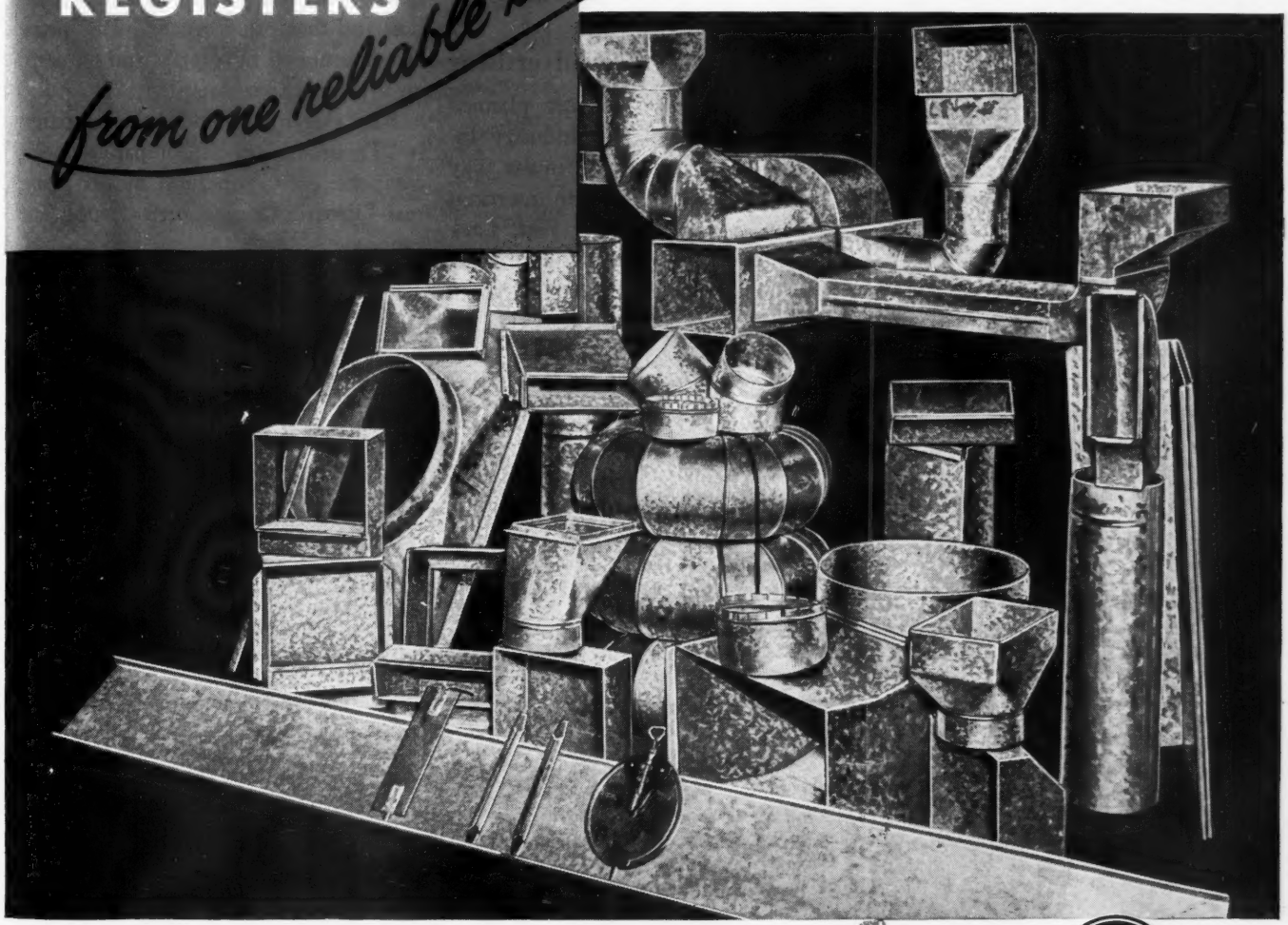
OVER ONE MILLION
SUCCESSFUL INSTALLATIONS
New Model "B" (illustrated) now available in 6, 7, 8, 9, 10 and 12 inch sizes. Write for Bulletin.
THE HOTSTREAM HEATER CO.
6925 QUINCY AVENUE • CLEVELAND 4, OHIO

YOUR EVERY NEED IN

PIPE-DUCT-FITTINGS-REGISTERS

from one reliable source

THE WILLIAMSON HEATER COMPANY



ALL SHAPES! ALL SIZES! FOR EVERY USE!

ACCURATE—die cut and formed for a quick, tight fit.
SCIENTIFICALLY DESIGNED—minimum friction loss assured.
STRONG—heavy gauge; double seamed for maximum strength.
NO PRYING—a perfect fit in half the time.
ATTRACTIVE APPEARANCE—smooth joints, no tape needed.
MINIMUM ERECTION TIME—save up to 25% in time.
TOP QUALITY—Williamson fittings are Williamson made.
PROMPT SHIPMENT—available from nearby warehouses.
COMPACT—require less space in basements and in walls.

OUR 60th ANNIVERSARY

There is no easier way to put warm air where you want it . . . than with WILLIAMSON Quality Pipe, Duct, Fittings and Registers . . . the *complete* home heating line. Write for free catalog.

THE WILLIAMSON HEATER CO.
DEPT. "FO" OAKLEY,
CINCINNATI 9, OHIO

WILLIAMSON

GAS—OIL—COAL FURNACES, PIPE & FITTINGS

"Heat to your heart's content"

fueloil & oil heat

election of officers to serve during 1950. John H. Jensen, Quaker City Iron Works, Philadelphia, was named president; R. L. Blodgett, Pennsylvania Furnace & Iron Co., Warren, Pa., became vice-president and L. R. Wood, Niles Steel Tank Co., Niles, Mich., treasurer. In addition to the above, T. A. Burress, The Heil Co., Milwaukee, Wis., and W. M. Gadberry, Columbian Steel Tank Co., Kansas City, Mo., comprise the newly-elected executive committee.

Allan R. Smith was re-elected executive secretary of the Institute.

Rochester Dealers Plan Cooperative Advertising

COOPERATIVE ADVERTISING to sell oil-heating to the Rochester, N. Y., area was under discussion at the meeting of the Oil-Heat Institute of Rochester, Inc., February 23. Fred Laube, president of the group, presided at the gathering of 52 members. The Institute is working on a campaign that is not ready for formal announcement.

Speaker at the meeting was A. E. Coburn, FUELOIL & OIL HEAT, who talked on the need for selling to get and keep the market from competitive fuels. He warned members not to expect cooperative effort to sell equipment and fuel-oil for the individual dealer, but urged each dealer to sell intelligently and hard to cultivate the market.

OIIC Reveals Plans For 1950 Advertising

THE ADVERTISING CAMPAIGN planned for this year by the Oil Industry Information Committee, got under way the first week of March with insertions in *Life, Saturday Evening Post, Look* and *Collier's*. Twelve black and white pages, plus one double page spread in October during Oil Progress Week, are contemplated.

Advertising in oil trade publications begins in April issues of petroleum marketing publications, with the complete list of publications used during 1940 slated to receive advertising later in the year.

Each individual advertisement is to employ a "talking picture" technique, designed so that even the "read-and-run" reader will absorb the basic objective of the insertion. One of the following four points will be covered in each advertisement: That a self-managed oil industry offers more benefits to the public than a regulated one; that the oil industry is progressive; that progress in the oil industry results from competition and that prices in the oil industry are determined by supply and demand on a competitive basis.

Basic slogan adopted for the campaign is "Thousands of oil companies mean competition—Competiton means progress—Progress means better living for everyone."

As in past years, tie-in material is to be available for local newspaper and radio advertising.

ASHVE Schedules Semi-Annual Meeting In Canada

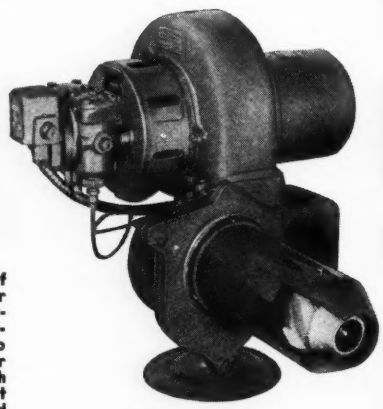
THE SEMI-ANNUAL MEETING of the American Society of Heating & Ventilating Engineers, New York 10, N. Y., is to be held June 18 to 21 at the Royal Muskoka Hotel in the Muskoka Lakes district, directly north of Toronto, Can-

CUSTOM *and* PRECISION BUILT

M | F

HAS SERVED THE JOBBER *for 75 Years*

This is self evident of a job well done. For at the outset, seventy-five years ago, BRANFORD determined to serve both the dealer and its customers with the best equipment which experience and craftsmanship could possibly produce.



Model HE-2

The Famous

BRANFORD

OIL BURNER UNIT

MODEL HE-2

Meets the Ever Growing Demand for ECONOMY and DEPENDABILITY!

The BRANFORD Oil Burner, Model HE-2 is famous, not only for its perfect performance, but for the custom and precision built motive back of it. BRANFORD wants its dealers and jobbers kept happy . . . free from the annoying and costly complaints of dissatisfied customers. BRANFORD wants your customers to feel that their BRANFORD OIL BURNER is the most important and dependable piece of equipment in their home. That is why BRANFORD OIL BURNERS are both a credit and a profit to you. They are prestige builders and bring you more business.

CONTACT YOUR PLUMBING AND HEATING JOBBER TODAY!

Model HE Capacity: 2 to 4½ G. P. H.

Model HE-2: For small firing rates 1.00 to 1.65 G.P.H. The Model HE-2 is equipped with new, patented BRANFORD Combustion Head and fuel unit with solenoid fast cut-off. Easy to adjust! Easy to service!

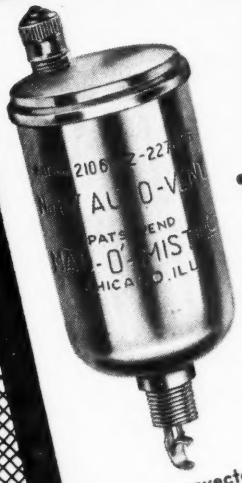
Manufactured by

MALLEABLE IRON FITTING CO.

Branford Burner Division

BRANFORD CONNECTICUT

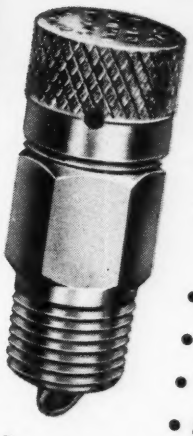
NUMBER
67
AUTO-VENT



- Self-Closing Float-operated
- Compact size
- Non-ferrous metals
- No air chamber required
- For pressure up to 30 lbs.
- Send for Catalog Sheet No. 67

For convector and baseboard radiation.
For vertical mounting only. Size 3 3/16" x 1½" with ⅛" I.P. male connection.

NUMBER
72
AUTO-VENT



The fastest venting valve (expansion type) on the market!

- Expansion and contraction confined to 4 vent slots only
- Special composition control disc
- Internal siphon tube
- No air chamber required
- Send for Catalog Sheet No. 72

For convectors, baseboard and free-standing radiation.
For vertical or horizontal mounting. Size 1¼" x ½" with ⅛" I.P. male connection.

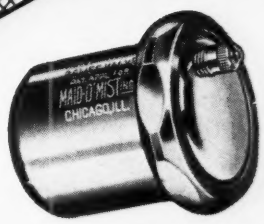
In Auto-Vents... everything points to MAID-O'-MIST
the fully automatic air valves for hot water heating systems

NUMBER
7
AUTO-VENT

A favorite . . . proved dependable on thousands of installations.

- Self-closing, float-controlled valve
- Non-ferrous metals
- No air chamber required
- Designed for pressures up to 75 lbs.
- Send for Catalog Sheet No. 7

For mains, pipe lines, unit heaters, convectors, panels, coils, etc.
For vertical mounting only. Size 4⅜" x 2¼" with ⅛" I.P. female connection.



NUMBER **27** AUTO-VENT

- Dependable float-operated valve
- Non-ferrous metals
- No air chamber required
- For pressures up to 50 lbs.
- Send for Catalog Sheet No. 27

For convectors and free-standing radiation.
For horizontal mounting only. Size 3" x 2¼" with ⅛" I.P. female side connection.

GET THEM FROM YOUR JOBBER - FAST DELIVERY

MAID-O'-MIST Inc.
HEATING SPECIALTIES

AUTOMATIC HUMIDIFIERS . . . . . AUTO-VENTS
WATER LINE CONTROLS . HEATING SPECIALTIES

MAID-O'-MIST, Inc.

3217 NORTH PULASKI ROAD . CHICAGO 41, ILL.

It is also easier

WEBSTER ELECTRIC
Two-Stage Fuel Unit

Well Over a Million WEBSTER ELECTRIC Fuel Units Now in Use Prove They Are Easier to Service

Easier because . . . their basic design originated standards for complete interchangeability, making it possible to use Webster Electric units as quality replacement on troublesome burners, thereby assuring top quality performance.

Easier because all elements . . . strainer, seal, valve and mounting . . . are so designed that servicing is simple and easy—no mess, no complications.

Have these features demonstrated at our booth at the OHI show. They will prove the point "It is also easier to use the best!"

Webster Electric Fuel Units are also manufactured in Canada by Canadian Acme Screw and Gear Ltd., Toronto, Canada.

See These Products at BOOTH 434
OHI SHOW
April 24 thru 28
Philadelphia
Penn.

WEBSTER ELECTRIC

Webster Electric Company, Racine, Wisconsin • Established 1909

"WHERE QUALITY IS A RESPONSIBILITY AND FAIR DEALING AN OBLIGATION"

ada. The Ontario Chapter, Toronto, of ASHVE is to act as host.

Chairmen for various activities have been designated and the program already is well advenced, according to John H. Fox, general chairman of the committee on arrangements. Programs are being prepared to permit presentation of technical papers in the morning with afternoon free for boat trips, golf or other recreational pursuits.

IOMA Changes Dates For 1950 Convention

MAY 3 and 4 have been announced as the new dates for the 1950 convention of the Independent Oil Men's Association of New England, Boston 16, Mass. Previously scheduled to be held during April, the change was decided upon because the original dates conflicted with the Philadelphia meeting and exposition sponsored by the OHI of America, the American Petroleum Institute and other organizations.

The Copley Plaza Hotel is to be the site, where a morning meeting will be held on May 3, another morning session and an afternoon meeting on May 4. Social functions include a Latin Quarter party on the first day and the group's annual banquet during the evening of the second day.

I-B-R Starts Heating Schools On April 11

"I-B-R SCHOOL OF MODERN HEATING," is the name chosen for the field classes to be conducted by The Institute of Boiler and Radiator Manufacturers, New York 16, N. Y., with the first scheduled for Springfield, Mass. on April 11-13.

Others are to follow at New Haven, Conn. on April 18-20; Providence, R. I., April 25-27; White Plains, N. Y., May 9-11; Jamaica, L. I., N. Y., May 16-18 and Newark, N. J., May 31 to June 2.

Schedules for subsequent classes are being prepared and will be announced later, according to R. E. Ferry, Institute general manager.

Courses, under the direction of Arthur L. Wales, field training director, are based primarily on I-B-R Installation Guides, with students receiving detailed information on calculating and designing hot water and steam heating

systems for residences. The schools include also a discussion of heating equipment merchandising.

Intended primarily for the benefit of employees of the trade, employees of wholesalers or manufacturers also can register. Applications for enrollment are to be on a "First come, first served" basis.

Wisconsin Dealer Group Concludes Active Month

THE MONTH OF MARCH was an active one for the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., highlighted by participation in the Home Show, held at the Milwaukee Auditorium, March 18 through 25. The Association booth featured a unique animated display and listed the names of all members on its side walls. These were divided into groups of oilburner sales and service companies, fueloil companies and suppliers and maintenance organizations. Harry Bringolf, chairman of the Home Show Committee, was in charge of the booth and assigned members for duty during afternoon and evening sessions.

Also during the month, a schedule of billboard advertising commenced on March 15, augmented with newspaper advertising, selling oilheat as the automatic heat that costs less.

On March 30 the regular meeting of the group was held at the Wisconsin Hotel. The speaker was Karl O. Werwath, president, Milwaukee School of Engineering, who talked on "A Technical School's Part in the Industry's Program." Subjects brought before the business portion of the meeting included consideration of an amendment to the Articles of Organization to permit additional members on the board of directors and approval of the organization of the Fox River Valley Oil-Heat Association and the arrangements made with them as affiliate members. The meeting also heard reports from the Home Show and Advertising Fund Committees.

Program Announced for NPA Semi-Annual Meeting

THE SEMI-ANNUAL MEETING of the National Petroleum Association, Washington 4, D. C., is to be held on April 13 and 14 at the Cleveland Hotel, Cleve-

to use the best!

WEBSTER ELECTRIC
Transformer

WEBSTER ELECTRIC Transformers Continue to Lead with Advance-Style Smaller Transformer

More than a million Webster Electric Transformers have established an enviable reputation for leadership in design and performance, still further engineering advancement has been achieved with the new smaller size transformer.

This advance-styled unit has the smart appearance and smaller construction so desired by the industry.

The well-known Webster Electric top quality performance is maintained in more compact form.

Don't miss the opportunity to witness the first showing of this new smaller transformer. It will be on display at our booth 434 at the OHI show . . . SEE IT!

See These Products at BOOTH 434
OHI SHOW
April 24 thru 28
Philadelphia Penn.

WEBSTER ELECTRIC

Webster Electric Company, Racine, Wisconsin · Established 1901

"WHERE QUALITY IS A RESPONSIBILITY AND FAIR DEALING AN OBLIGATION"

land. Group sessions will include a morning meeting on April 13, devoted to transportation problems and two on April 14 covering lubricating oils and industrial relations.

A general session, scheduled for the afternoon of April 13, is to receive President W. S. Zehrung's welcome; hear a talk by Donald C. O'Hara on the Washington scene and a discussion of "Integration and Anti-Trust Policy" by M. A. Adelman, associate professor of Economics, Massachusetts Institute of Technology. The principal address will be rendered by Dr. R. E. Wilson, chairman of the board, Standard Oil Co. (Indiana), wherein he will trace the growth of petroleum competition in the central states.

Indoor Comfort Conferences Setting Attendance Records

A TABULATION compiled at the end of February revealed that the 1950 schedule of Indoor Comfort Conferences, sponsored by the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, had attracted average attendance figures of 107.3, the highest average per conference in the three-and-a-half years they have been conducted. The two-day instructions sessions on system design and installation information are again under the direction of Guy A. Voorhees, technical secretary of the Association.

For the information of interested persons, there follows a schedule of April Indoor Comfort Conferences, with the name of the local chairman for each: Atlanta, Ga., April 10 and 11, Rudy Brown, Rumbold Co., chairman; Chicago, April 17 and 18, George Kalvog, Austin Sheet Metal Works, Inc., chairman; South Bend, Ind., April 20, 21 and 22, Richard J. Young, Young Htg. Supply Co., chairman; Fort Wayne, Ind., April 24 and 25, H. F. Blackburn, Tri-State Htg. Supply, chairman; Detroit, Mich., April 28 and 29, E. B. Root, Superior Safety Furnace Pipe, chairman.

Tuition for each course is $12.50, except for the three-day course at South Bend, where a $15.00 fee will be charged.

Convector Group Issues Booklet for Consumers

AS PART OF ITS consumer-education program, the Convector Manufacturers Association, Chicago 1, Ill., has issued a 16-page booklet, "Heating with Convector Radiators—A Guide for Home Owners." It is a pocket-size book, printed in two colors, liberally illustrated with photographs and sketches. All manufacturer members of the Association cooperated in its planning and preparation.

It begins with an introductory page about convector heating, follows with a general definition of heating comfort. Other subjects discussed include the selection of the heating system and the importance of the heating units in the heat distribution system. Advantages of convector radiators then are enumerated, various types given and a page devoted to a discussion on how convectors are used. Concluding portions of the booklet emphasize the importance of the heating contractor or installer in the selection and efficient installation of the heating system.

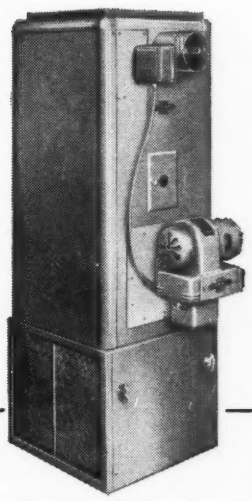
Copies of the booklet may be obtained without charge from Association headquarters, 221 N. LaSalle St., Chicago 1.

WE DEFY COMPETITION
See for yourself at
BOOTH 125
National Oil Heat Exposition
Commercial Museum, Philadelphia
S·O·S
THAT'S M' BOY.
SERVICE
• QUICKLY INSTALLED •
• "SKIN-HEAT" IN SECONDS •
• STANDS-UP FOR YEARS •
The World's Finest
COMBUSTION CHAMBERS
HARD BRICK OR INSULATING FIRE BRICK
Cast in revolutionary patented shapes that fit together instantly.
NO TOOLS, NO BANDS, NO CLIPS
NO CEMENTING, NO CUTTING
Makes round, square, rectangular, or pear shape to fit any boiler made.
AVAILABLE AT YOUR WHOLESALER
If he cannot supply you write
S.O.S. PRODUCTS COMPANY, Inc.
282 - 284 Nassau Avenue
Brooklyn 22, New York
Serving the Plumbing, Heating and Oil Burner Industries with 24 leading chemical and refractory products. All S.O.S. Products are sold under a money back guarantee.

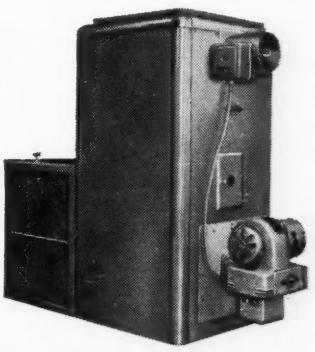
1950 WILL BE A BIG YEAR FOR HOME BUILDING!
GET YOUR SHARE OF THIS MARKET WITH THESE

DELCO-HEAT Conditionairs

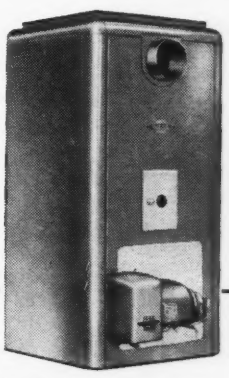
with famous Delco-Heat Pressure Atomizing Oil Burners—
or new, vaporizing-type, forced-draft oil burners



New Delco-Heat oil-fired forced warm air furnace compactly designed for utility room and basement installations—or where floor space is limited. Available with (1) the famous Delco-Heat pressure atomizing burner—or (2) vaporizing-type, forced-draft burner!



New Delco-Heat oil-fired forced warm air furnace—with (1) Delco-Heat pressure atomizing burner with the exclusive "Rotopower" unit, or (2) vaporizing-type forced-draft burner. For low-ceilinged basements and installations where head room is restricted!



New Delco-Heat oil-fired gravity warm air furnace with a new and dependable vaporizing-type, forced-draft burner. A wonderful value! Now even the smallest homes can have all of the advantages of top quality automatic Delco-Heat—at low cost!

Here are five new Delco-Heat Oil-fired Conditionairs—especially engineered to meet the requirements of owners and builders of small homes! Five new Conditionairs—in both gravity and forced warm air models—with either vaporizing forced-draft or pressure atomizing-type burners! They're easy to install, easy to service—and because all models have the same "basic unit" construction, they're economical for you to stock!

Most important—these new Delco-Heat Conditionairs, with their many outstanding features, will give your *value-conscious* customers exactly what they want in automatic home heating . . . dependability, comfort, convenience and economy!

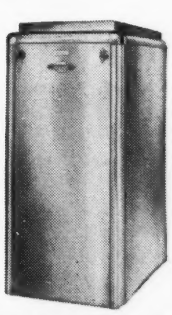
These new Conditionair models are perfect companions to the other great Delco-Heat products—conversion Oil Burners, Oil-fired Conditionairs, Gas-fired Conditionairs, Oil-fired Boilers, automatic Coal Stokers, and Oil and Gas-fired Water Heaters. Now the Delco-Heat line is more complete, more valuable than ever. Now, when you sell Delco-Heat—a real General Motors' value—greater profits can be yours, because:

1. You'll be selling a name that's a household word—a name synonymous with *value*.
2. You'll have a complete line of oil, gas and coal-fired home heating units.
3. You'll be backed by research and engineering that will keep the products you sell out in front.
4. You'll have the help of an advertising and sales promotion program that *really works!*

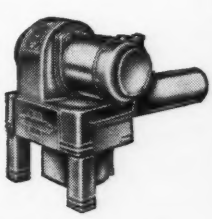
For full information about the advantages of a Delco-Heat franchise, write to Delco Appliance Division, Dept. FO-4, General Motors Corporation, Rochester 1, N. Y.

GENERAL MOTORS
DELCO-HEAT

Your Keys to Greater Profits

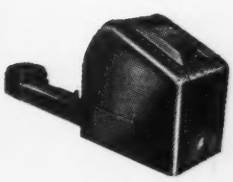


Delco-Heat Conditionair
(Oil or Gas-fired)



Delco-Heat Conversion
Oil Burner

Delco-Heat
Oil-fired Boiler



Delco-Heat
Automatic Stoker

Manufacturers of Delco Water Systems for farms and homes — Fractional Horsepower Electric Motors — Electric Automobile Clocks

Engineered Boiler Baffles

A THOROUGHLY GOOD JOB of baffling can turn a coal boiler into a highly efficient oil-fired steam generator. Splendidly engineered baffles, applied to a boiler that just asks for them, produce these advantages:

1. Boiler capacity increased by 30% to 50% through increasing the effectiveness of the boiler's heating surfaces.
2. Faster steaming at a given gph rate.
3. At a given gph rate, amazing increase in efficiency; resultant slashing of the fuel consumption.
4. Hotter, cleaner combustion; the need to clean boiler flues may be virtually eliminated.

No better-engineered baffle arrangement has been spotlighted in recent years than that shown in the large drawing. This was developed by E. R. Pratt, of the Foreman and Pratt Heating Equipment Company, Toronto, Canada.

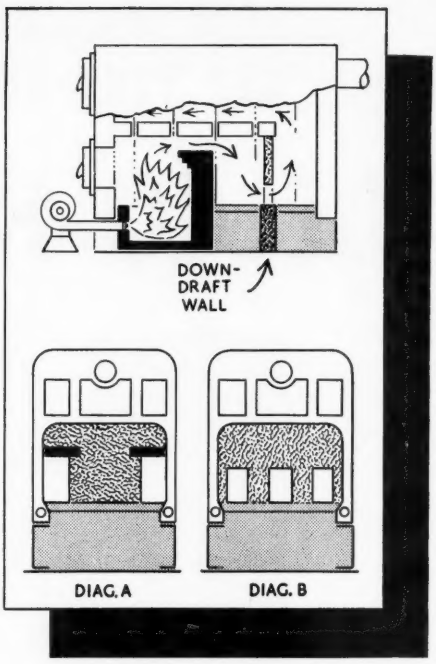
"With the ordinary combustion chamber the hot gases from the oil fire contact only a small portion of the boiler's available heating surface," Mr. Pratt explains. "This gives high stack temperature and low efficiency. One bricking method we use with good results is shown in the drawing.

"The design is altered to fit the boiler size, load, and required fire size. The dimensions should be considered carefully to arrive at unrestricted passage for the hot gases; also to insure that the maximum absorbing surface of the boiler is exposed to hot gases.

"The 4" measurement in the drawing is the minimum for 3 gph and harder firing."

Mr. Pratt's baffle design gives unusually high flame temperatures, to start out, because the back wall of the firebox extends up to the crownsheet of the boiler. Next, the design causes the exceptionally hot products of combustion to wipe the boiler's direct heating surfaces in a highly effective manner. Starting at point 1 in the side view, all the products of combustion scrub the vertical direct heating surfaces as they travel to point 2. This multiplies the effectiveness of these surfaces. From point 2, the gases travel to crownsheet uptakes 3, 4, and 5, then flow to the front of the boiler through passage 6, and finally reach the smokehood by flowing through passages 7 and 8.

fueloil & oil heat Short Short Article on Burner Service

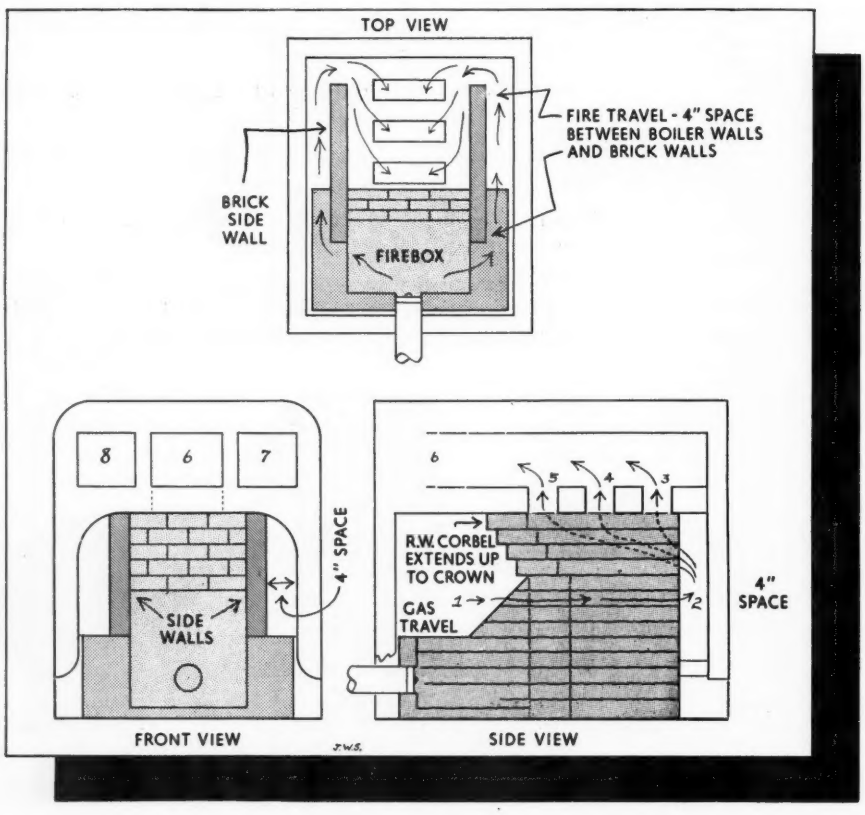


The arrangement provides additional travel for the heat-rich, red-hot products of combustion, as instead of travelling from point 1 to point 4, they take the much longer route of 1-2-4. Thin, lively streams of red-hot gases flow through what was the combustion space of the boiler, instead of a single current of lazy, relatively cool and ineffective gases.

Such baffling, together with the new firebox and complete burner reconditioning that often must go with it, runs high in price. Many burner dealers balk at the idea of selling such a project for upwards of $300 or $400, failing to weigh properly the advantages gained and which may include exemplary burner operation, freedom from breakdowns, combustion outstandingly clean and quiet, and reduction of yearly fuel bills by 25% in some instances and up to 50% in others.

The small drawing shows simplified baffling, easily installed by a dealer new at working towards exceptional burner and boiler performance. The downdraft wall in the upper view may be of the pattern of Diag. A or Diag. B.

In designing any baffling, aim to wind up with a negative over-fire draft. Don't increase the draft drop of the boiler to such an extent that you can't on a large job fired more than 3 gph adjust for at least .05" draft over the fire.

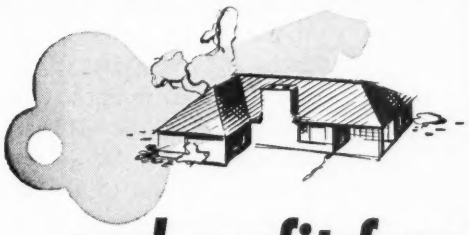


Front panel removed to show motor and blower.

H.C.Little WINTER AIR CONDITIONERS FOR BASEMENT INSTALLATION

H.C.Little UPRIGHT FORCED AIR UNITS FOR FIRST FLOOR INSTALLATION

H.C.Little GRAVITY TYPE FURNACES FOR BASEMENT INSTALLATION



Three Keys to Unlock the Small Home Market

and profit from increased oil heating sales!

The owners and contractor-builders of small homes comprise a huge and profitable oil heating market ... to which you can unlock the door with these three H. C. Little keys:

1 **Type AC** They run themselves—and with maximum economy! Exclusive H. C. Little automatic electric ignition and vaporizing oil burner are big sales features. Size A-AC, 84,000 BTU output; Size B-AC, 125,000 BTU output.

2 **DU-44 C. I. B. L.** Perfect for small homes without basement or with concrete floor slab. Only 60" tall and proportionately compact for utility room installations. 78,500 BTU output. *DU-44 C.I., same less motor and blower, for basement gravity use. 60,000 BTU output.*

3 **Type AG-CI** A popular H. C. Little gravity furnace for many years. Widely used in small homes where budgets are modest. Only for basement use. 50,000 BTU output.

These Features Make It Easier!

Like all H. C. Little units, these oil furnaces **LIGHT THEMSELVES—SO THEY SELL THEMSELVES** Remember that NO oil furnace is truly automatic if the thermostat merely turns up the fire from LOW to HIGH. H. C. Little units ARE truly automatic; they have NO PILOT LIGHT. The thermostat turns the fire OFF ... or ON, by means of H. C. Little's exclusive electric ignition.

Like all H. C. Little units, these oil furnaces **BURN LOW COST CATALYTIC OIL.** Any oil heating equipment not so equipped is at a competitive disadvantage!

H. C. Little dealerships in some territories are available. Write to:

H.C.Little Burner Company

HEAD OFFICE AND FACTORY, SAN RAFAEL, CALIFORNIA or to the office in the city nearest you.

Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Detroit Lakes, Minn.
Fayetteville, No. Car.
Kansas City, Mo.
Larned, Kansas
Newark, N. J.
Portland, Ore.
Prescott, Ariz.
Reno, Nev.
Salt Lake City, Utah
Seattle, Wash.
St. Louis, Mo.
St. Petersburg, Fla.

Manufacturers Activities

Atlantic Refining Expands Baseball Game Broadcasts

THE LARGEST RADIO SCHEDULE in its fifteen years of baseball broadcasting has been announced by the Atlantic Refining Co. In Philadelphia the company will cover all day and night, home and away games of the Phillies and Athletics, Gene Kelly and Bill Brundige handling the announcing chores for the Phillies, Byram Saam and Claude Haring for the Athletics. All home games of both teams, in addition, will be televised, with Bill Campbell announcing for the Phillies and George Walsh for the Athletics.

Home and away games of the New York Yankees are to be broadcast, with Curt Gowdy and Mel Allen back as announcers and in Pittsburgh, where day and night games are scheduled for broadcast, Rosey Rowswell and Bob Prince will describe happenings to the listeners.

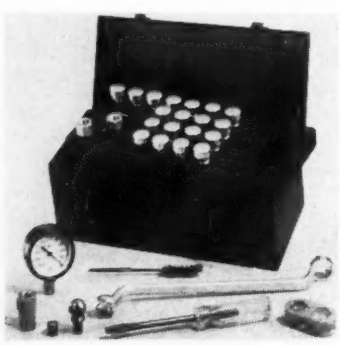
All day and night games, home and away for the Boston Braves and Red Sox are included on the schedule, with last year's announcing team of Jim Britt, Tom Hussey and Leo Egan back for a return engagement. In addition, all day and night games of the Baltimore Orioles are to be covered this season by Chuck Thompson. Finally, each Saturday afternoon will feature a rebroadcast of the "game of the week" in the major leagues, with Howard Hamrick repeating as announcer.

The New MIRROR FINISH STEINEN NOZZLE

Assures Better Burner Performance

1. Mirror finish causes heat deflection and prevents carbon collection.
2. Micro-atomized spray for intensified heat.
3. Uniform shutoff.
4. Nozzles are interchangeable for different types of burners.
5. Each nozzle individually tested to assure accuracy of rated capacity.
6. Made in hollow and solid spray types.

STEINEN NOZZLE AND TOOL KIT



A real "must" for every installation and service man. Heavy steel box contains a wood tray that holds 17 nozzles in plastic containers, 3 adapters, a vial of additional strainers and one of cleaning sticks. Tool compartment equipped with one ¼" MPT pressure gage with ⅛" adapter, one offset wrench, ⅝" and ¾"; one screw driver, one nozzle brush, one nozzle jig. Kits can also be supplied with any combination of above items.

WILLIAM STEINEN MFG. CO.
43 Bruen Street • Newark 5, N. J.

STEINEN — The seal of guaranteed precision products

S.O.S. Products Names Four Representatives

FOUR FACTORY REPRESENTATIVES have been appointed by S.O.S. Products Co., Inc., Brooklyn 22, N. Y., to handle the twenty-five chemical compositions, refractory and combustion chambers the company produces.

W. J. Hacht and Associates, Royal Oak, Mich., will operate in the state of Michigan; Gilbert E. Thiele, Milwaukee, is to cover the state of Wisconsin; John R. Younger, St. Cloud, Minn., will call on outlets in the states of North and South Dakota and Minnesota; William Frieden, Central States Eng. & Sales Co., Omaha, has been assigned the states of Nebraska and Iowa.

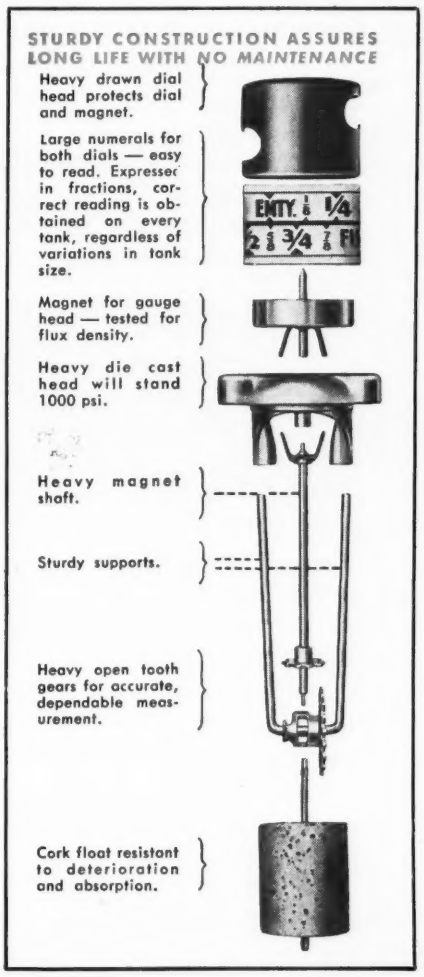
Williamson Heater Opens Cincinnati Sales Office

A DOWNTOWN HEATING HEADQUARTERS has been established at 322 Reading Road by Williamson Heater Co., Cincinnati, Ohio. The modern tile and concrete building provides 11,000 sq. ft. of floor space for shop and warehouse purposes, 1,800 sq. ft. of office space and 1,500 sq. ft. of product display space. Equipment to be carried in stock includes Williamson warm air heating units and equipment for all fuels, conversion burners, blowers, filters, controls and accessories. Also, there will be shown a line of Williamson pipe and fittings.

The branch, serving the Greater Cincinnati area, is managed by W. H. Callahan, and employs 84 persons, including 22 sales engineers and a staff of factory-trained service men. Parking facilities are available at the rear of the build-

CUT SERVICE COSTS...

With a Rochester "Dual-Dial" Leakproof Gauge on the Job


STURDY CONSTRUCTION ASSURES LONG LIFE WITH NO MAINTENANCE
Heavy drawn dial head protects dial and magnet.
Large numerals for both dials — easy to read. Expressed in fractions, correct reading is obtained on every tank, regardless of variations in tank size.
Magnet for gauge head — tested for flux density.
Heavy die cast head will stand 1000 psi.
Heavy magnet shaft.
Sturdy supports.
Heavy open tooth gears for accurate, dependable measurement.
Cork float resistant to deterioration and absorption.

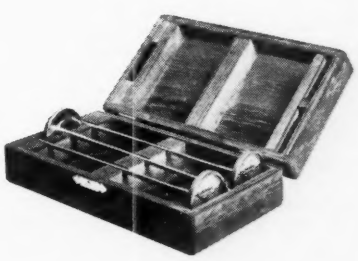
Smelly Oil Fumes will not Vent into Basement

No oil burner installation is better than its poorest part. A flimsy gauge can get you in trouble if it vents smelly fumes. It may not only give you a bad name, but might involve a liability case. So why not sell fool-proof installations by standardizing on the Rochester "Dual-Dial," the gauge with the magnetic, leak-proof construction.

When you install Rochester gauges, you insure yourself against customer complaints, worry over personal liability. They cannot leak fumes or spill oil, even under pressure. Built for safety, they have been Underwriters' listed for over 25 years. Stocked by leading wholesalers everywhere for 275 gallon oil burner storage tanks in the following depths—22″, 24″, 26″, 27″, 42″, 44″ and 47″; 1½″ and 2″ pipe thread connections. Special lengths to order.

Increase Your Profit and Customer Good-will

The Rochester CAC (Circulation Air Control) thermometer Kit enables you to quickly and accurately balance air temperature in any type of forced air heating unit. No further equipment is needed. Send for information today.



Rochester
GUARANTEED ACCURACY

ROCHESTER MANUFACTURING CO., INC.
8 ROCKWOOD STREET, ROCHESTER 10, N. Y.

Please send ☐ Literature and prices on "Dual-Dial" Gauges
☐ Literature and prices on Circulation Air Control Kit.

Name .....

Company .....

Address .....

City ..... Zone ..... State .....

ing, which is occupied under a long-term lease. The new establishment replaces two former downtown branches.

Philadelphia Distributor for Enterprise Rotary Oilburners

CONTINUING its policy of maintaining a nationwide distributor organization, Enterprise Engine & Foundry Co., San Francisco, Calif., has appointed Modern Heat, Inc., Philadelphia, as distributor for its rotary oilburners.

Nate Feldman is manager of Modern Heat's Industrial Division, which is equipped to handle new installations, as well as conversions and replacement business.

Pontiac Tank Company Opens Indiana Branch

PONTIAC TANK CO., INC., Pontiac, Mich., manufacturers of fueloil and other types of tanks, has opened a branch plant in Lebanon, Ind., where oil storage tanks are to be made in sizes from 150 to 4,000 gals.

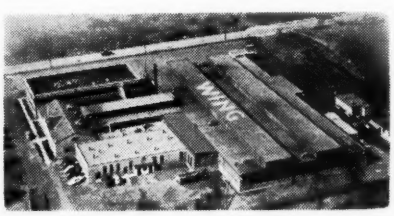
The move is intended to improve the company's service to customers in the area, where Lee Wood, Mid-West Sales Engineers, Inc., Indianapolis, Ind., is sales representative, confining his sales exclusively to heating supply jobbers.

Wing Consolidates Operations At Linden

ON MARCH 3 L. J. Wing Mfg. consolidated all operations in a modern factory building at Vreeland Mills Road and Fernwood Terrace, Linden, N. J. Previously the company had maintained three separate factories in Newark, N. J., with executive offices in New York City. A sales office is to be operated at 154 West 14th St., New York City under the new arrangement.

Wheller

The new factory and office building provides additional manufacturing facilities, with adequate land for future growth, but of more immediate importance, it accomplishes closer and more efficient interdepartmental cooperation, the principal object of the consolidation. Present officers of the company are Harry S. Wheller, president and general manager; Walter W. Wilson, vice president and treasurer and Charles H. Smith, secretary.



The company's products include unit heaters, ventilating fans, forced and induced draft fans and blowers.

Norge Heat Designates Chicago Wholesale Distributor

WHOLESALE DISTRIBUTION in the Greater Chicago area for Norge Heat Div., Borg-Warner Corp., Detroit 26, Mich., has been undertaken by Holmes-Kelly Distributing Co., Inc. The firm, which has been a distributor of heating and ventilating equipment, is located in Chicago, will cover that area along with northern Illinois and northwest Indiana.

Holmes-Kelly maintains a floor ex-

THE STACK TEMPERATURE REDUCTION TELLS ITS STORY!

See us at the Oil Heat Exposition, April 24-28— Booth No. 122

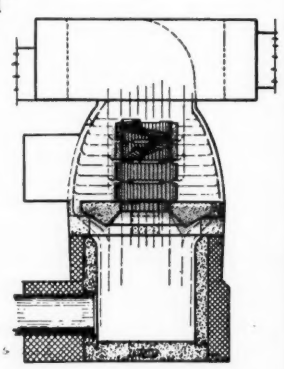
FRANKLAND
DIRECTIONAL FLOW CONTROL
FUEL CONSERVOR

★ Dealers — Here's a Profitable Heating Item! ★

for use with conversion burners

Tell your conversion burner customers about the Frankland Fuel Conservor. It's a money-saving story that will win you lasting customer goodwill, and your sales will get a healthy boost, too. The laboratory-tested and proved Frankland Fuel Conservor delivers hotter, steadier heat because it directs the super-heated gases to the point of contact where they are used for actual heating. The Frankland Fuel Conservor LOWERS STACK TEMPERATURE and brings homeowners savings up to 40% on their oil bills. Economically priced (the Conservor pays for itself within a few months), the Frankland Fuel Conservor is not a baffle, but a directional flow control. Easily installed. Also applicable to gas conversions.

Interested? — Then Write Promptly for Complete Information About This New Heating Sensation.



Scrubbing action against the sides and top of the furnace imparted to ALL the gases insures maximum heat transference to the house, not out the chimney.

A few large area warehousing distributorships are still available.

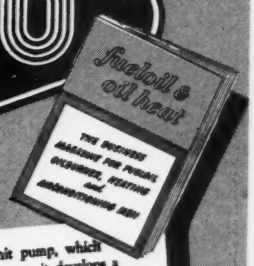
FRANKLAND CORPORATION
2640 GOODRICH AVENUE
FERNDALE 20, MICHIGAN

THANK YOU

fueloil & oil heat

for backing up our advertising claims that a filter will eliminate strainer problems, reduce trouble calls, save time, increase profits, and keep customers satisfied.

CUNO



Fuel Oil & Oil Heat Explains the Problem

Curing Feed Line Troubles

MORE THAN TWO YEARS AGO, a service man we were quizzing broke down and confessed that seldom if ever did he clean the oil strainers in some fuel units of the burners he services.

Once he had this off his mind, he declared that certainly he was having much more trouble than if he cleaned these strainers regularly. Right then he had two jobs with pumps whining loudly because, probably, the fuel unit oil strainers were practically tight-plugged, he said. Loss of prime on outside jobs often was caused by plugged strainers. Chronic nozzle plugging could be blamed on the same thing.

Whenever he got around to taking apart some fuel unit strainers, or was forced to it because the burner simply would not run otherwise, the strainer surely was tight-plugged.

Why was he putting a blot on his own reputation, besides making oil heating turn sour in scores of homes, by failing to clean these strainers regularly?

"Every time I take apart the strainer of certain fuel units," he complained, "I get in an awful mess. Mostly, because I haven't with me the dozen kinds of parts I need for a wide variety of fuel units. Then, of course, some old burners have separate suction or feed line strainers, not built into standard fuel units, and I haven't the parts for these either. The strainer I've taken apart needs a new screen or new gaskets, it turns out, and I haven't with me what's needed. Often the strainer cleaning job is awful messy because the design artist behind the strainer didn't facilitate regular, easy strainer cleaning; the job might take two hours. Then again, after taking apart and cleaning a strainer, often in a week I get a call-back because it's dripping. There are just too many headaches and heartaches in getting out and cleaning all the strainers on my customers' burners that need cleaning!"

The advice this service man received worked out beautifully for him, just as it had for a dozen other men who faced the same problem.

Here it is. First, find a suction line strainer or filter you really can love because it is the tops in design, is tremendously effective for ending nozzle plugging trouble, and above all is a gland of a fuel unit pump, which is expensive to repair once it develops a leak, often is damaged by grit that can be stopped by a highly effective strainer or filter.

Fourth, make it easy and simple for you to install quickly and neatly the strainer or filter units you sell. Have with you the small fittings you will use. Develop your own standard layout for adding the unit, using either small size copper tubing or ⅛" pipe for inside tank jobs and ¼" pipe fittings for outside tank jobs. These sizes are minimum, of course.

Fifth, when you install your pet filter or strainer, remove from the old burners or old fuel units the strainers it's been a headache to clean. The big idea is that, once you've modernized the oil-handling on all your jobs according to your own ideas, the only oil line filter or strainer you'll have to clean will be your pet. You've selected that one because for one thing it's a pleasure for you to clean it. Besides, you are never going to be caught without spare parts for that one.

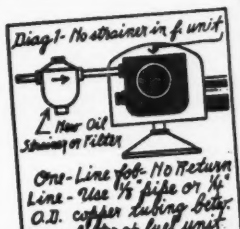
This system for turning a headache into a pleasure, and a profitable pleasure at that, has been working for a number of years for smart service men who've got what it takes to recognize a good thing and see it through. The best part of the thing is that it winds up with reduced service expenses for the customers, as well as more efficient and more dependable burner operation.

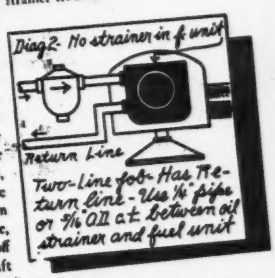
Fueloil suppliers searching for opportunities to improve their customer's enjoyment of oil heating can use this same wrinkle to excellent advantage. Such companies can't do much more for their customers than (a) reduce yearly service expenses, and (b) eliminate plugged-strainer troubles.

fueloil & oil heat Short Short Article on Burner Service

Second, [illegible] dozen filters or strainers of this type. Obtain plenty of spare parts. From then on, keep plenty of complete units and spare parts in your car. You're never going to be caught without them.

Third, one by one, sell your customers on the idea of letting you install this particular make and model of strainer or filter, for your aim is to wind 'up with exactly this unit on every job you service. Your big sales arguments include the point that this modern, neat, highly effective filter or strainer will be tended to by you each fall at a minimum of effort. You won't have to fuss an hour cleaning it. The quick, easy regular attention you will then give the filter or strainer will keep the burner in better condition, less likely to break down, more efficient in its use of fuel, and more like new than if grit, sludge, and gum were feeding into the oil pump, nozzle, and pressure regulator and shut-off [illegible] remember that even the shaft


Diag 1- No strainer in f unit
1 Hose Oil Strainer or Filter
One-Line Job- No Return Line - Use ½ pipe or ⅝ O.D. copper tubing Between tank & fuel unit



Cuno Micro-Klean Ad(vice) to Fuel Oil Men

ALL YOU NEED NOW to Filter Any Domestic Oil Burner IS A CUNO FILTER

One model CUNO MICRO-KLEAN Oil Burner Filter handles any installation using domestic fuel, from the smallest cottage to the largest public building. Straight line pipe connections.

L C

ALL YOU NEED NOW to Service an Oil Burner Filter IS A CUNO CARTRIDGE

One standard MICRO-KLEAN cartridge fits any MICRO-KLEAN filter—only one size to lug to the job. Cuts down inventory, too.

L B

ALL YOU NEED NOW for 60-Second Service IS A CUNO FILTER

Removing a single nut on the MICRO-KLEAN filter loosens housing cover for 60-second cartridge replacement.

L D

ALL YOU NEED NOW to Insure User Satisfaction IS A CUNO FILTER

MICRO-KLEAN cartridges give your customers better service because they will not channel, they last twice as long and hold twice as much dirt.

L A

To insure customer satisfaction and save installation time . . . ask your jobber about Cuno MICRO-KLEAN Oil Burner Filter Model 1C1.

FOR FREE BULLETIN, ATTACH COUPON TO YOUR LETTERHEAD

CUNO

OIL BURNER FILTERS

Easier to Stock . . .
Easier to Service

Cuno Engineering Corp.
8522 South Vine St.,
Meriden, Conn.

Please send information on Cuno MICRO-KLEAN Oil Burner Filters and replacement cartridges.

Name.....

Title.....

Company.....

Address

Make us prove that filter protection for oil burner pumps and nozzles need not be a headache. Fill out this coupon and mail it today.

CUNO ENGINEERING CORPORATION South Vine St., Meriden, Conn.

I want to know how Micro-Klean can save time, money and work on my oil burner installations and service.

NAME.....

COMPANY.....

STREET ADDRESS.....

CITY..... STATE.....

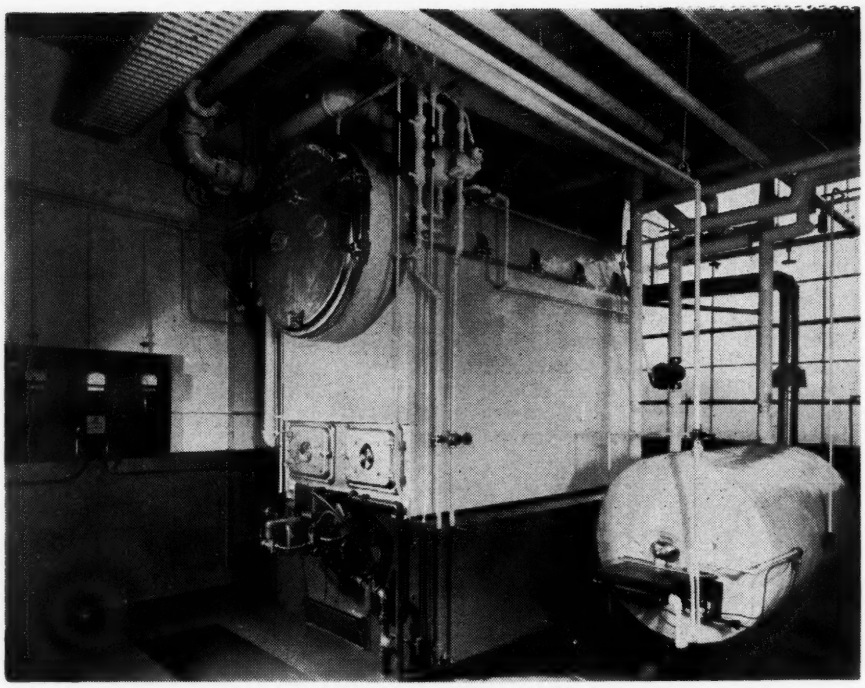
WHO IS YOUR JOBBER?.....

hibit of its products and will handle Norge Heat's complete line of boiler and furnace-burner units, winter air conditioners, water heaters and conversion burners.

Mor-Sun Sales Program Uses Two Sets of Color Slides

INCLUDED in what Gene Brown, sales manager, Mor-Sun Furnace Div., Morrison Steel Products, Inc., Buffalo, N. Y., describes as the company's most ambitious publicity program, are two series of color slides. Used in a Kodaslide Viewer, one set is for the use of company representatives to show to potential Mor-Sun merchandisers, recounting the story of the products, the plant and sales promotion. The other series is to be shown to consumers, detailing the selling points and advantages of Mor-Sun furnaces.

In addition, the company's program for 1950 inaugurates an advertising campaign in shelter and general magazines. Advertisements directed at more than 50,000,000 homes are to be placed in *American Home, Better Homes & Gardens, House & Garden, House*



The theme of advertising *recently released by McDonnell & Miller, Inc., Chicago 11, Ill., emphasized that the boiler room is the most expensive part of any plant and the hungriest person on anyone's payroll. The illustration above was used in the advertisement and shows McDonnell & Miller's own boiler room. The boiler is finished in white enamel, illuminated by gleaming fluorescent lights. "Such a room," says the advertisement, "is a worthy setting for . . . the No. 51 Water Feeder and No. 63 Low Water Fuel Cutoff that you see in the picture." Concluding thought expressed in the advertisement pointed out that the boiler room has been a stepchild too long.*

WELCOME!

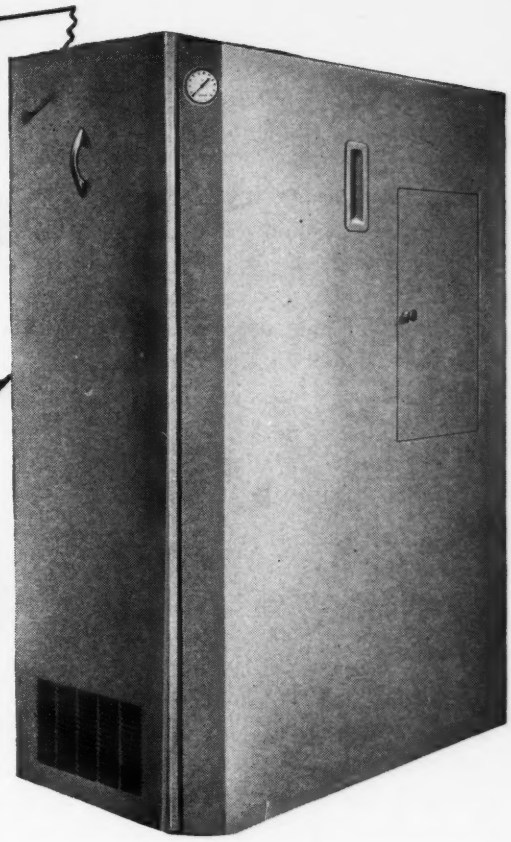
We'll be seeing you in Philadelphia at the National Oil Heat Exposition

Plan to stop and visit us at **BOOTH No. 542,** where modern Enterprise Rotary Oil Burners will be on display for your inspection. Many new and improved features of Enterprise Oil and Combination Oil-Gas Burners, in manual, semi-automatic and full automatic types, offer outstanding economies you'll want to personally investigate. Enterprise burner division personnel will be on hand to review these features and answer any questions.

ENTERPRISE
Oil Burners
The Choice of Heating Experts

BURNER DIVISION OF ENTERPRISE ENGINE & FOUNDRY COMPANY
18th & FLORIDA STS., SAN FRANCISCO 10, CALIFORNIA
DISTRIBUTORS IN PRINCIPAL CITIES

!! EXTRA !!
BURNHAM SCOOPS THE HEATING INDUSTRY



with PACEMAKER

The Lowest Cost, High Efficiency Oil-Fired Boiler on the Market!

From coast to coast heating contractors are calling PACEMAKER the biggest thing in oil boilers that ever hit the small home field. It's Burnham engineered to out perform competition, yet it's the lowest priced cast-iron boiler on the market. And that's important in today's tight competition.

Burnham engineers set out to scoop the market with a super-efficient cast-iron boiler at a rock bottom price. The response has been terrific.

And no wonder! Note the PACEMAKER'S many plus features:

HIGH EFFICIENCY — Two crown sheets — not one — provide more prime heating surface — enable PACEMAKER to literally scrub all the heat from the fuel. Vertical fire-travel, too — usually found only in more expensive boilers.

BOILER SHIPPED ASSEMBLED — A big cost saving item in these days of high labor.

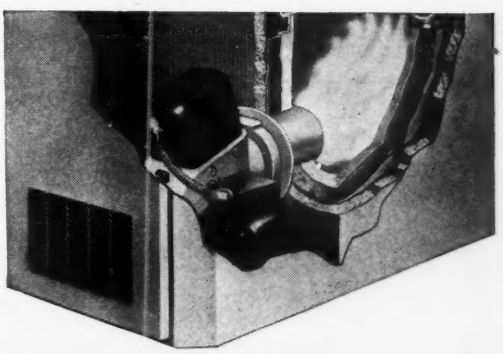
REFRACTORY INSTALLED AT FACTORY — Refractory fitted in boiler base at factory — another labor saving feature.

DOMESTIC HOT WATER — Specially designed to deliver *abundant* hot water, summer and winter, at low cost. Built-in all copper water heater — tankless or storage type.

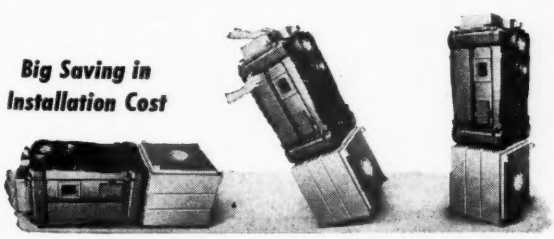
CONTROLS — All controls mounted in front of boiler *directly above oil burner* assure easy wiring.

GAS TIGHT CONSTRUCTION — All sections machine ground for tight fit — no air leakage or escape of oil fumes.

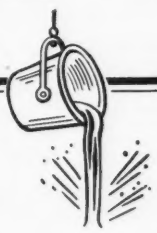
NOW AVAILABLE: Burnham's *new* oil burner, flange mounted and tailor-made for the PACEMAKER, insures fuel-saving performance. Ask about the PACEMAKER-Burner combination today.



Big Saving in Installation Cost



Boiler and base quickly bolted together lying on side. Easily raised to vertical. Another big time saver.



CAST IRON — PACEMAKER Boilers are made of cast iron, the metal which combines excellent heat conductivity with life-long service. Its durability has proven it to be superior to all other metals. Many cast-iron Burnham Boilers are still giving dependable service after more than a half century of use.

See the PACEMAKER Exhibit at Booth #417, O.H.I. Show

Burnham Corporation

"PIONEERS OF RADIANT BASEBOARD HEATING"

IRVINGTON, N. Y., Dept. FO-40

INSTITUTE OF BOILER AND RADIATION MANUFACTURERS · I.B.R. · MEMBER

Burnham RADIANT HEATING SINCE 1873

BURNHAM CORPORATION
Irvington, New York — Dept. FO-40

Please send me literature on PACEMAKER.

Name_____

Address_____

City_____ State_____

Beautiful, Life, Saturday Evening Post and *Time*. Trade paper advertising will be supplemented by a series of direct mail campaigns, with other phases of the program to include point-of-sales material, newspaper advertising mats, envelope stuffers and revisions of product literature.

The entire program was presented to Mor-Sun representatives during their February 27 and 28 annual meeting at the factory.

Minneapolis Display Shows Body Reactions

A LIFE-SIZE PLASTIC MAN that demonstrates bodily reactions to temperature changes, features a touring display of the Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. It is designed to illustrate the human-like activity of automatic control, stands six feet high and is made of two layers of transparent lucite. It has two lighting systems, a blue one to represent the body's nerves, a red one for the arteries.

The display demonstrates how a thermostat duplicates the brain reaction to

temperature change. An increase in warmth, for example, sends a signal along the nervous system, shown by an increase in the intensity of the blue light. In turn, this alerts the circulatory system to increase the blood supply, indicated by the brightness of the red light. At the same time, these reactions are duplicated by the Honeywell control system installed in a mock schoolroom linked to the plastic man. The thermostat is shown to transmit the signal of temperature change via wires or air lines, illuminated by blue light to correspond to the human nervous system, to the heating pipes, shown by red lights to correspond to the human circulatory system.

The intricate display demonstrates also how radiant or convector surfaces parallel the skin's surface in temperature control functions.

Six Wheelco Salesmen Win Bermuda Trips

CLIMAXING a full year's contest was the awarding of Bermuda bonus trips to six salesmen who exceeded their quotas on sales of the Capacilog Strip Chart Recorder, made by Wheelco Instruments Co., Chicago 7, Ill.

Sales territories, records and market potentials were correlated to establish expert, professional and amateur quotas to place each representative on an equitable basis. The winners were Jensen

Introducing the

ALDRICH BANTAM

De Luxe

A NEW BEAUTIFUL FULLY ENCLOSED

BOILER-BURNER

Especially designed for the modern low-cost home.

Here are BIG BOILER features in a small and more beautiful package! The Standard Aldrich BANTAM introduced a year ago, set new records for fast and easy sales. The Aldrich BANTAM DE LUXE will beat those records!

The cost is only slightly higher than the Standard... but the streamlined blue Hammerloid shell that *completely encloses* the boiler and burner unit has eye appeal unequalled on any sales floor.

Under the shell is the rugged, dependable Aldrich CX Burner... the strong vertical steel fire-tube boiler... a perfect combination for economical heating of the modern 4 and 5 room home. Rating is 100,000 BTU's an hour. Recommended firing rate, 0.75 GPH.

A Newer, Finer,

"Quality Package Deal"

Comes crated, fully erected, for quick, easy installation . . . cleaner, faster profits. Stands only 43 inches high; occupies 20 x 36 inches floor space.

BANTAM FEATURES

BIG BOILER FEATURES include heat and hot water from the same unit . . . removable hot water coil that meets FHA requirements for domestic hot water supply . . . removable combustion chamber . . . balanced design for maximum fuel efficiency, quick recovery, quiet operation, low stack temperatures, easy servicing. The BANTAM, like all Aldrich Boiler-Burners, is also available for hot water supply only.

GET THE FACTS ABOUT

ALDRICH

With the beautiful Bantam De Luxe and the low-priced Bantam Standard . . . with 6 larger units rated 118,000 to 808,000 BTU an hour . . . with interchangeable oil and gas burners . . . all PACKAGED AND READY TO SELL AND INSTALL . . . Aldrich has the complete high-profit line for jobber and dealer. Write for the facts about Aldrich NOW.

SEE THE ALDRICH LINE AT THE

Oil Heat Exposition, Philadelphia, April 24-28 Booth 337-341

ALDRICH HEAT-PAK PRODUCTS

The ALDRICH Company

103 East Williams Street, Wyoming, Ill.

A subsidiary of Breeze Corporations, Inc.

ANOTHER BREEZE MARK PRODUCT

The Apthorp — TRUE ALIGNMENT —

OIL BURNER NOZZLE

EACH NOZZLE A "SPECIALIST"

FOR *Perfect* COMBUSTION

GET THE *RIGHT* TYPE FOR EACH JOB

SOLID SPRAY NOZZLES are correctly used on MANY burners, except those with the sunflower-type flame. If used on a burner that should have a hollow spray nozzle the extreme result will be a smoky fire in the *center* of the flame. However, even if the visual flame looks OK a combined CO_2 and smoke test with first a solid and then a hollow spray nozzle may show that ONE TYPE OF SPRAY GIVES A 2% to 4% BETTER CO_2 PERFORMANCE THAN THE OTHER.

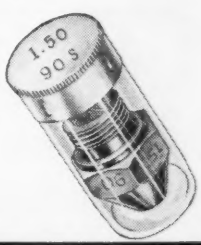
HOLLOW SPRAY NOZZLES are correct for those burners where air turbulence is spread wide in the chamber. PARTICULARLY THOSE BURNERS HAVING A SUNFLOWER-TYPE FLAME. If used on a burner that should have a solid spray nozzle the extreme result will be a smoky fire on the *outside edges* of the flame. However even if the flame looks good to you, a CO_2 test with first a hollow and then a solid spray nozzle may show that one type has a 2% to 4% better CO_2 performance.

Making a smoke test at the same time with a reliable smoke tester will be very helpful in determining comparative results.

EVERY NOZZLE TESTED FOR CAPACITY AND SPRAY ANGLE

Write for Complete Nozzle Bulletin —

EVERY NOZZLE PACKED in an oil-proof, dust-proof, transparent vial with plated metal cap which is also marked with gallonage, angle and type to simplify inventory and stock handling.



BOSMACO PRODUCTS — THE APTHORP OIL BURNER NOZZLE — THE IDEAL NOZZLE EXTRACTOR — THE BOSMACO-APTHORP NOZZLE KIT — THE INSTANT-GLO COMBUSTION CHAMBER — THE BOSTON-STANDARD DRAFT CONTROL — THE CLEARVIEW OIL TANK GAUGE AND THE BOSTON CHROME STEEL "HANG-DOWN" BAFFLE will be shown in Booths 243 and 245 at the National Oil Heat Exposition, Philadelphia, on April 24 through 28. Come in and see them demonstrated. Write for complete information.

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division

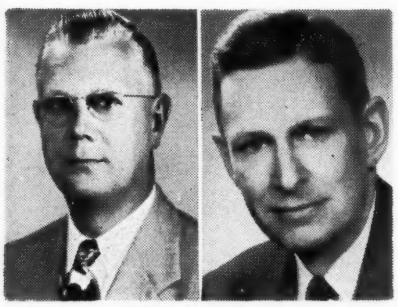
BOSMACO

7-17 WILLOW ST., LYNN, MASS.

Instrument Co., Los Angeles; R. L. Larsen, Chicago; J. E. Anderson, Indianapolis; C. L. Clark, Detroit; J. P. Cantor, Cleveland and W. J. Olson, Buffalo.

Burg and Webb Become Top Officers of Iron Fireman Corp.

ELECTION of C. T. Burg as president and E. C. Webb as vice president, Iron Fireman Corp., a wholly-owned subsidiary of Iron Fireman Mfg. Co., Portland 1, Ore., has been announced. Mr. Burg has been in charge of Iron Fireman sales since the inception of that concern twenty-seven years; Mr. Webb has for many years been engineering service manager. Both will continue to maintain Cleveland offices.



Burg Webb

T. H. Banfield, president, Iron Fireman Mfg. Co., reported the company's stoker sales during 1949 were off 40%, gas burner sales increased about 23% and oilburners gained 103% over 1948 sales. During 1950, he asserted, Iron Fireman plans to go after still more of the oil and gas heating market, with an expanded dealer organization, increased training programs, strengthened advertising and a new method of field-office contact. Product development is to continue as an important part of the company's operations.

General Controls Starts Large Plant Addition

A LARGE ADDITION to its factory has been started by General Controls Co., Glendale, Calif. The new facilities in the $100,000 expansion will be devoted to assembly operations of automatic pressure, temperature, level and flow controls, with an expected lowering of overall production costs and reduction in the present backlog of orders.

The latest addition increases the under-roof area at General Controls to nearly 200,000 sq. ft. of manufacturing space. Continued aggressive merchandising by twenty-two direct, factory-maintained branch offices has increased acceptance of the company's products, according to the announcement, with a need for expansion of facilities.

Graduate Class From Milwaukee Eng. School

AMONG THE STUDENTS graduated during the commencement exercises of the winter term class, Milwaukee School of Engineering, Milwaukee, Wis., were thirty-four who had completed the course offered by the Refrigeration, Heating and Air Conditioning Institute.

Each received a technician's certificate during the program held on March 24 in the State Teachers College Auditorium.

George E. Hochstein, Heil Co., introduced T. A. Crawford, general manager, Timken Silent Automatic Div., who delivered the commencement address.

OILUX + HYDROLUX = MORE PROFIT

Hydro-Lux water equipment

Gas and Electric Water Heaters

Cellar Drainer

Well Pumps & Water Systems

Condensate Return Systems

Boilers

Water Softeners

Water Conditioner

The Complete Year-Round Line

EACH INSTALLATION SELLS ANOTHER

You'll get more "easy" sales with this all-season line of water and heating equipment. You'll get more competitive bid jobs with full profit because Oilux Company prices are lowest in history. Your customers will be happier with Oilux quality backed by advertised factory warranty . . . "guaranteed AFTER installation." There's more PROFIT with the Oilux Line. Write for details.

1950 National Magazine Advertising, Newspaper Advertising Service and Display Materials Help You Get more Oilux-Hydrolux Business.

Write For Details

Oilux HEATING EQUIPMENT

Oil Burners

Oil Hi-Boys

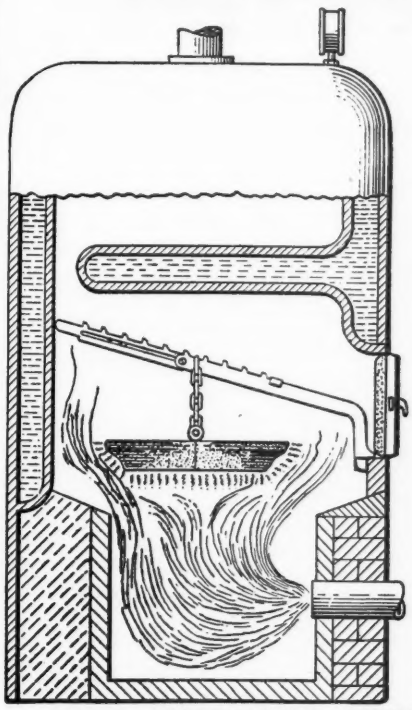
Winter Conditioners

IN ALL SIZES

OILUX COMPANY 2200 DWENGER AVENUE FORT WAYNE 4, INDIANA

Write for Catalogs and Price List

IRON-HIDE BAFFLES & SUPPORTS SAVE FUEL!



AND COST SO LITTLE

DEALERS

WRITE FOR SPECIAL INTRODUCTORY OFFER

JOBBERS

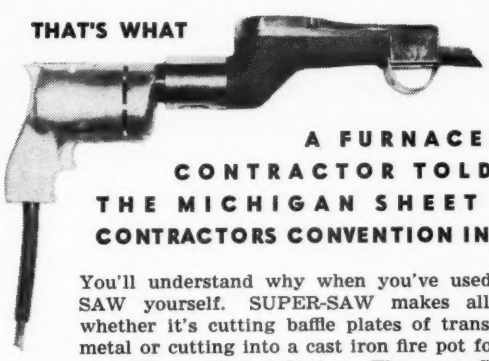
WRITE FOR INFORMATION AND DISCOUNTS ON THE COMPLETE IRON-HIDE LINE OF COMBUSTION CHAMBERS & BAFFLES

IRON-HIDE REFRACTORIES, INC.
DOCK ST., MATAWAN, N. J.

"I Can Cut Openings for Hot Air Registers in 10 Minutes Per Opening With the New

"SUPER SAW"
AIR COOLED
PATS. PEND.

THAT'S WHAT



A FURNACE CONTRACTOR TOLD US AT THE MICHIGAN SHEET METAL CONTRACTORS CONVENTION IN DETROIT

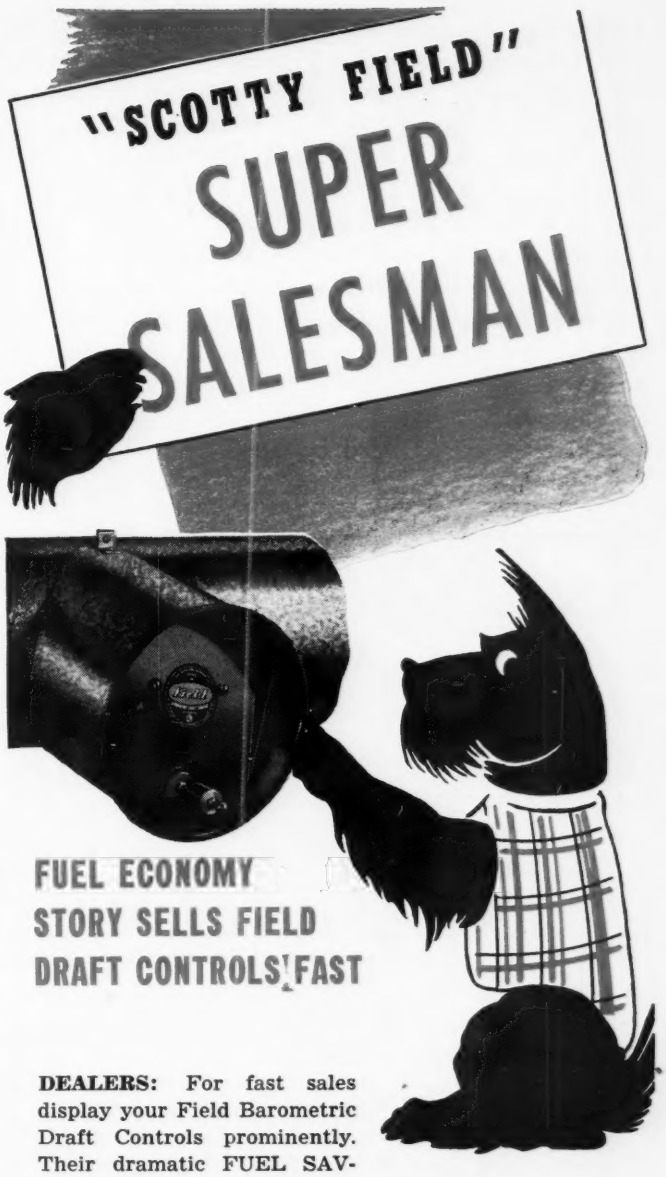
You'll understand why when you've used a SUPER-SAW yourself. SUPER-SAW makes all jobs easy whether it's cutting baffle plates of transite or sheet metal or cutting into a cast iron fire pot for oil-burner conversion unit installation. There are SUPER-SAW blades to do all such work accurately and quickly.

See SUPER-SAW in action at Booth 124 at the Oil Heat Institute Exposition, Commercial Museum, Philadelphia, April 24-28; Illinois Sheet Metal Contractors, Springfield, Illinois, April 27-29; at Booth 410 at the National Association of Master Plumbers Convention, San Francisco, Calif., May 17-19.

SUPER-SAW is handled by better jobbers in the U.S.A. and Canada, or you may write us for free booklet.

R C S TOOL SALES CORPORATION
Dept. FOH **Chalstrom Bldg., Joliet, Ill.**

"SCOTTY FIELD" SUPER SALESMAN



FUEL ECONOMY STORY SELLS FIELD DRAFT CONTROLS FAST

DEALERS: For fast sales display your Field Barometric Draft Controls prominently. Their dramatic FUEL SAVING story makes them best-sellers, self-sellers!

A Field Barometric Draft Control improves the performance of any heating plant—provides for lower fuel consumption, increased safety, longer plant life. That's why dealers find it profitable and easy to sell the efficient, durable Field Barometric Draft Control. Write today for complete information on the Field Barometric Draft Control line.

On The Finest Heating Equipment Field Controls The Draft.

Visit Our Booth No. 611, O. H. I. Convention, Philadelphia, April 24-28

FIELD BAROMETRIC DRAFT CONTROLS

FIELD CONTROL DIVISION
H. B. CONKEY & COMPANY MENDOTA, ILLINOIS

AFFILIATES:
CONCO MATERIALS HANDLING DIVISION
CRANES—HOISTS

field REGISTERED

AFFILIATES:
CONCO BUILDING PRODUCTS, INC.
BRICK—TILE—STONE

BAROMETRIC DRAFT CONTROLS

Timken Concludes Program Of Sales Management Forums

SALES MANAGEMENT FORUMS have been sponsored by Timken Silent Automatic Div., Jackson, Mich., with sessions on March 6 and 7 at New York; March 9 and 10 at Montebello, Quebec and a final one, March 15 and 16 at Chicago. Conducted as open forums, the meetings were attended by several hundred dealers, and were prepared to help them improve their sales management policies and practices.

A factory team, headed by T. A. Crawford, Timken Silent Automatic general manager, conducted the meetings. Other speakers included R. M. Marberry, advertising manager, W. J. Chappell, assistant sales manager; F. M. Jordan, regional sales manager; J. G. Standard, representing the company's advertising agency and a selected group of regional managers and other officials.

Introduced during the forums was a series of oilfired boiler-burner units for larger homes, ranging in capacity from 110,000 to 205,000 Btu and fired with Timken's wall-flame oilburner.

Mr. Crawford complimented the dealers for the effectiveness of their sales efforts during 1949 and emphasized the need for even greater aggressiveness. His keynote speech warned of the increasingly acute competition the dealers would encounter. "You have just completed one of the biggest years in Timken Silent Automatic history," he said, and cautioned, " . . . I cannot emphasize too strongly, however, that today's salesmanship will not sell heating equipment tomorrow. The dealer who gets business in the decade to come is the dealer who goes out after it."

Other topics and talks discussed sales quotas, salesmen's compensation, recruiting, training, supervision, pricing, installment selling, advertising and salesroom practices.

Penn Sponsors Series Of Control Meetings

A NEW SERIES of educational shows for heating engineers and service men begins April 10, sponsored by the Penn Electric Switch Co., Goshen, Ind. R. H. Luscome, general sales manager, has revealed that the schedule worked out will cover the northeastern and Atlantic seaboard states.

Included in the displays are giant controls, which operate, colored slides and charts. The present series is an outgrowth of the educational shows the company has been conducting for the past fifteen years. These are patterned after previous ones to some extent incorporating the latest in information and service helps on automatic controls.

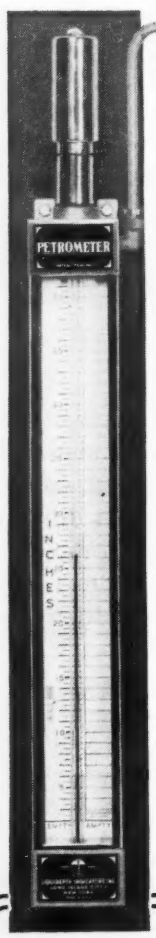
Meetings are being arranged by local jobbers in each city to be visited and each meeting will give the most thorough demonstration possible in a single evening. At present the Penn Heating Control Show is scheduled to appear in Detroit on April 10; Cleveland, April 12; Rochester, April 18; Syracuse, April 20; Utica, May 1; Albany, May 3; Springfield, May 8; Boston, May 10; Providence, May 15; Hartford, May 17; New Haven, May 19; Bronx, May 23; Manhattan, May 25; Brooklyn, May 29; Newark, June 1; Trenton, June 5; Philadelphia, June 7; Baltimore, June 12; Washington, June 14; Richmond, June 19, Norfolk, June 21.

After the regular session a discussion period covers individual installation problems.

New Design

PETROMETER

Tank Gauges



DISTINCTIVE FEATURES:

- **METAL AERATOR:** 75% better in performance and appearance than the troublesome outmoded rubber bulb.
- **DIRECT READING DUAL SCALES:** Constant reading in inches and gallons. Always ready. Easy to read.
- **FLOOD PROOF:** Positive gauge protection when tank is overfilled. Automatic Red "X" fluid check.
- **NO TOOLS NEEDED** to adjust or replace scales when tanks are not level.
- **SCALE READINGS:** Adjustable to take care of tank pitch.
- **WARNING SIGNAL:** Red transparent plastic strip may be moved upward or downward. Warns when to re-order.
- **NEW LOOK:** Pleasingly compact—sturdy—dependable.
- **REMOTE READING:** The New Petrometer is simple to install and maintain. The gauge may be located any place above or below the level of the tank; up to ONE QUARTER MILE distant from the tank.
- **FLEXIBLE SCALES:** May be removed or adjusted easily. Gallon conversion figures may be typed on scale.

WRITE FOR FULL INFORMATION TODAY — SPECIFY BULLETIN 2004.

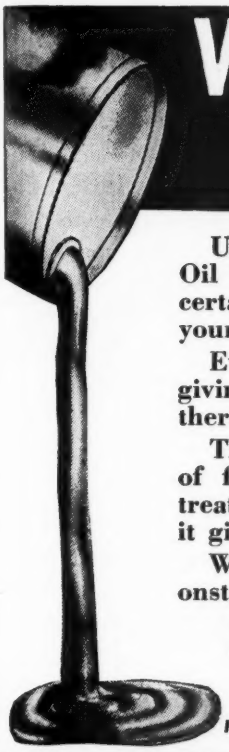
LIQUIDEPTH INDICATORS

PETROMETER

TEN STAR SQUARE

LONG ISLAND CITY 1, NEW YORK

WASTE LESS FUEL OIL



Use Alken-Certified Even-Flo Fuel Oil Conditioner in your oil and be certain of obtaining the most for your money.

Even-Flo improves atomization, giving more complete combustion, thereby reducing soot deposit.

That over *1,000,000,000* gallons of fuel oil have been successfully treated with Even-Flo is proof that it gives "TOPS" in results.

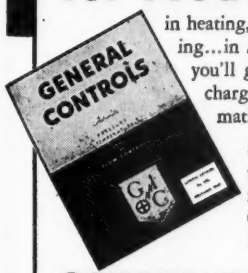
Write for booklet and *FREE* demonstration in your fuel oil.

ALKEN-MURRAY CORP.
131 E. 23rd St.
New York 10, N. Y.
Individual Water Treatments—Soot Removers

Certified Alken
EVEN-FLO
FUEL OIL CONDITIONER

WHAT DO YOU WANT CONTROLLED?

for Product or Process...



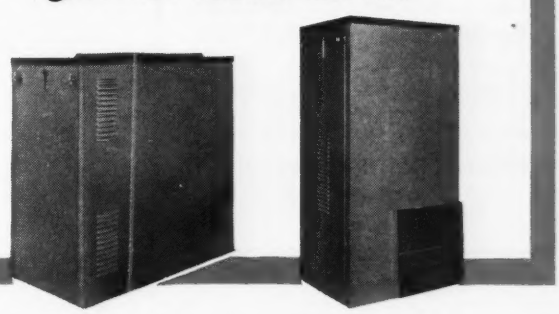
in heating, refrigeration, aircraft or industrial processing...in *any* application where CONTROL is *vital*, you'll get better results with General Controls in charge. Whatever the *need*, for the best in automatic controls, it's General Controls.

FOR A BETTER ANSWER...to any control problem, check with General Controls first. Get this big, new catalog or see a General Controls specialist at any of our 21 Branch Offices.

GENERAL G/C CONTROLS
801 Allen Avenue, Glendale 1, California

Manufacturers of Automatic Pressure, Temperature, Level & Flow Controls
FACTORY BRANCHES: Baltimore 5, Birmingham 3, Boston 16, Buffalo 3, Chicago 5, Cincinnati 2, Cleveland 15, Dallas 1, Denver 4, Detroit 8, Glendale 1, Houston 6, Kansas City 2, Minneapolis 2, New York 17, Philadelphia 40, Pittsburgh 22, San Francisco 7, Seattle 1, St. Louis 12, Tulsa 6.
DISTRIBUTORS IN PRINCIPAL CITIES

HOUSING DEVELOPERS
want **Kaustine**
Fully Enclosed Construction
*
Chrome Steel Liner



LOW BOY—Dimensions: 46" x 49⅜" x 24½"; 95,000 B.T.U. at the bonnet with .85 nozzle. Float type pan humidifier; Economizer and "Air Way" combustion chamber.

HIGH BOY — Dimensions: 62½" x 31½" x 24½"; 65,000 B.T.U. at the bonnet with .65 nozzle. Economizer "Air Way" combustion chamber.

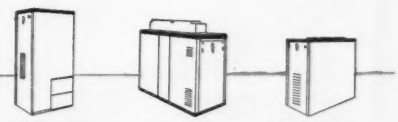
Housing developers are sold on KAUSTINE'S greater fuel economy, smart appearance and clean-firing performance. Fully Enclosed Construction and Chrome Steel Liner are two more reasons why developers are choosing KAUSTINE Winter Air Conditioners.

FULLY ENCLOSED CONSTRUCTION — Everything is completely enclosed and out of the way in KAUSTINE furnaces. All units are housed in sturdy steel cabinets, with clean, modern lines, and finished in eye-resting blue and grey enamel, which adds to the neat appearance of any basement or utility room.

CHROME STEEL LINER—Every KAUSTINE Winter Air Conditioner is equipped with the more costly Chrome Steel Liner. This liner insures faster heat transfer, and lowers oil consumption. Dealers and home owners alike value this KAUSTINE quality feature very highly.

Fully Enclosed Construction and Chrome Steel Liner, combined with such other KAUSTINE points of quality as, Full Floor Sheet, Factory-Wired Controls, Floor Sheet Cold Air Return and Packaged Construction are convincing more and more dealers and developers. "It's Good Business to Sell The KAUSTINE Line."

Kaustine COMPANY, INC. PERRY, NEW YORK



HIGH BOY DE LUXE LOW BOY

SEE KAUSTINE FURNACES AT OUR BOOTH No. 744

KAUSTINE CO., INC.
DEPT. 40-F PERRY, N. Y.
Please send complete information and prices covering the KAUSTINE line of Winter Air Conditioners.

NAME .....
ADDRESS .....
CITY ..... STATE .....
BUSINESS .....

Thank You . . .

MR. JOHN L. LEWIS, The Employees of NATIONAL HEATING AND FUEL OIL CO., South Jersey's Largest Atlantic Fuel Oil Distributor and New Oil Burner Installers, Are Grateful For Your Help in Selling a **RECORD** Number of Fuel Oil Burners For Us.

From **COAL** To **OIL** Is The Cry Everywhere. Coal Prices Go **UP**—Fuel Oil Prices Go **DOWN.** Now Cheaper To Burn **FUEL OIL** Than **COAL.**

Convert Now! Positively No Monday Down. Pay Nothing Until Oct.

Phone WOodlawn 3-8265 DAY or NIGHT

NATIONAL HEATING and FUEL OIL CO.

1321 Walnut Street, Camden, N. J.

Largest Atlantic Fuel Oil Distributor in South Jersey

ESTABLISHED 1923

The above advertisement *was inserted early in March in the "Courier-Post" by National Heating and Fuel Oil Co., Camden, N. J., aimed, obviously, at converting coal-using consumers to oil while the memories of John L. Lewis' latest didoes were fresh in their minds. M. R. Nehr, manager of National, says reactions to the advertisement were decidedly favorable and ". . . it has really boosted sales."*

Frontier Oil "Boards" New Oilburner Purchasers

DURING THE MONTH OF MARCH Frontier Oil Co., Inc., Buffalo, N. Y., employed a novel scheme to attract oilburner customers. The company invited prospects to be our ". . . guests while your new oil furnace is being installed." Prospective buyers were invited to choose any hotel in Buffalo, where their entire family would be guests of Frontier while their home was without heat.

The offer was limited to orders approved during March. The family received also free theater tickets for the night away from home and breakfast in bed to top it off. As a final clincher, the firm offered to buy the customer's unused coal.

Armstrong Furnace Names Central New York Outlet

APPOINTMENT of Diment Heating Supply Co., Inc., Liverpool (Syracuse), N. Y., has been made by Armstrong Furnace Co., Columbus, Ohio. The outlet will handle the complete line of Armstrong warm air heating equipment, and, in addition, will carry a stock of pipe, fittings, blowers, controls and general warm air heating installation items.

Diment operates in the area encompassing the New York cities of Syracuse, Watertown, Auburn, Ithaca, Elmira, Binghampton, Utica and Oneonta. In addition to a demonstration room for dealers' use to show items they may not have in stock, engineering, service, sales and advertising assistance will be provided.

Renick & Mahoney Issues Catalog No. 50

ISSUANCE of its twenty-fifth anniversary catalog No. 50 has been announced by Renick & Mahoney, Inc., New York 6, N. Y. It covers a complete line of equipment and materials for bulk storage, truck tank and other types of fueling equipment.

The catalog incorporates a reference index, dividing the book into sections containing the same types of equipment, supplemented by a list of specific items included therein and the pages on which they appear. In the back of the catalog

OB-2
Fuel Oil Filter
Actual Size

Three Sizes
OB-2
OB-4
OB-8

See This

SPARKLER FUEL OIL FILTER

Booth 622

SPARKLER MANUFACTURING COMPANY
MUNDELEIN, ILLINOIS
Member Oil Heat Institute of America

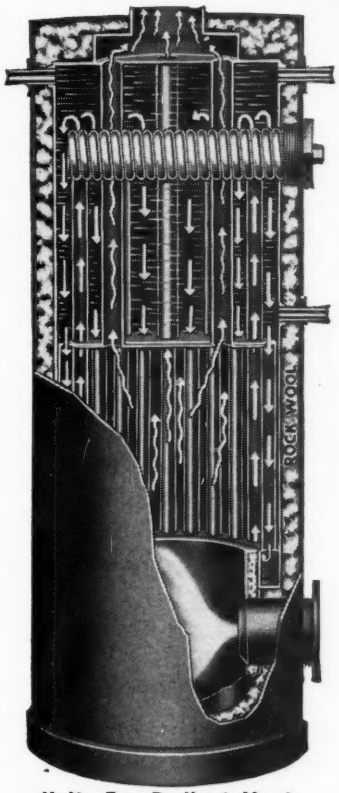
NATIONAL OIL HEAT EXPOSITION

Commercial Museum
Philadelphia
April 24 thru 28, 1950

IN CONJUNCTION WITH
27th Annual Convention of OHI
SPONSORED BY
OIL-HEAT INSTITUTE OF AMERICA INCORPORATED

Shephard

OIL FIRED BOILER BURNER UNITS
DOMESTIC WATER HEATERS



Units For Radiant Heat

Featuring

The Original "Percolating" System

COMPARE THESE FEATURES

- ASME Code Construction
- Removable Screw Type Fittings
- Heavy Boiler Plate Construction
- Two Inch Rock Wool Insulation To Eliminate Stand By Loss
- Hydrostatic Tested—300 Lbs.
- All Copper Coil Tankless Heater For Domestic Hot Water
- Six Different Sizes
- Standard Size Fittings

Check Our Prices First Before Buying

Maybe You Qualify as an Exclusive Dealer or Jobber In Your Territory.

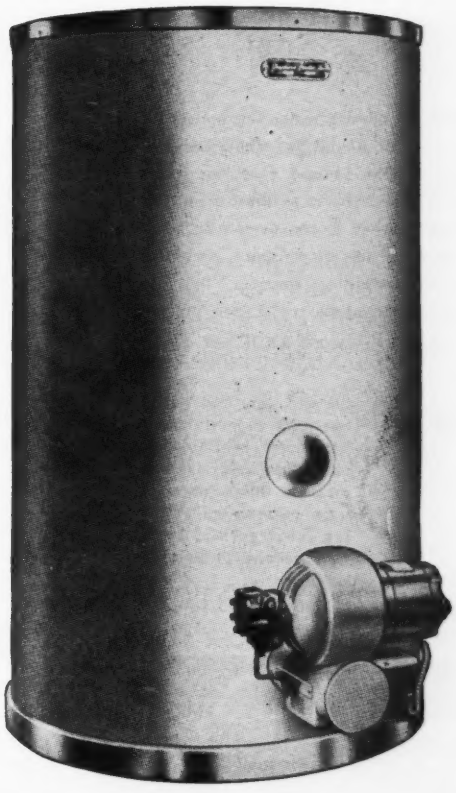
Make Your PROFITS for 1950 with the Shephard line of Boilers—Water Heaters—Burners

Write or Wire Today

Shephard Heater Co., Inc.

951 Sycamore St.

Terre Haute, Indiana



there is reproduced an alphabetical product list for facilitating the location of individual items.

Practically every product is pictured, accompanied by explanatory copy pointing out features and suggested applications. In many instances the illustrations are cross-section views to show interior construction and arrangement of parts. Prices for each item are shown.

Cyclotherm Completes Sales Reorganization

REORGANIZATION of the management of Cyclotherm Corp., Oswego, N. Y., was accomplished at a recent meeting of the board of directors. Lewis H. Dietz, Oregon engineer, was named vice president in charge of sales; Aatto P. Saha became vice-president in charge of production and engineering.

Mr. Dietz has been associated with the company as West Coast distributor since it was formed. He owns and operates the Pacific Eng. and Eqpt. Co., Portland. He reports that during 1950 Cyclotherm will launch a national advertising campaign, stressing the theme that the company offers a boiler to meet all capacity requirements.

Mr. Saha, also identified with the company since its inception, is responsible for designing and developing its line of equipment.

◈

Raymond S. "Shep" Doherty has joined the general sales department, National Radiator Co., Johnstown, Pa., assigned to the sales development of steel boilers. His initial project will be a new small home heating unit called the National Packet, on which unit Mr. Doherty has been working during its development since joining the company in July. Since 1928 he has been with several manufacturers of boilers and heating accessories. During World War II he served as a lieutenant colonel in the Air Force.

P. J. Degnon, vice president, Mack International Motor Truck Corp., New York 1, N. Y., has become manager of the newly-created Eastern Sales Div., composed of the former New England, Northeastern, Metropolitan New York and Northern New Jersey sales areas. His appointment to this positon, for which he will make his headquarters at Mack's Long Island City, N. Y., offices, climaxes a thirty-one year career with the company, during which he has held important executive sales positions.

Mrs. Anne Motter is back in a sales capacity at Operators Heat, Inc., Baltimore, Md. Several years ago when the Oil Heat Association of Maryland, Inc., was beginning its growth, Mrs. Motter was "loaned" to the dealer group to help with its many problems. Now that the association has acquired a full-time, paid secretary, Mrs. Motter has returned to Operators Heat and has received the thanks and good wishes of the Baltimore oilheat people.

See the whole FEDERAL LINE

Keep your eye on the fast-selling FEDERAL line of fine construction boilers! Profit-wise boiler men always specify FEDERAL BOILERS because they give the most service with the least trouble at lower cost. Every fast sale of a FEDERAL BOILER means bigger cash profits for you. Be smart — consult your jobber for prices NOW!

★ **FVW**

Vertical tubular water leg boiler. Oil or gas fired unit for small low cost homes with radiant heat, hot water or steam. Includes instantaneous domestic hot water. Compactly built, takes up less floor space. Complete with combustion chamber, flush or extended jackets.

***66,000 to 96,000 B.T.U. net output**

★ **FC** **Oil and gas fired units, ideal for use with radiant heat, steam or hot water heating systems. Low water line. Deluxe two-toned hammertone finish jacket. Large furnace volume and extended water leg construction. Tankless coils guaranteed to deliver fully as rated.**

***77,000 to 312,000 B.T.U. net output**

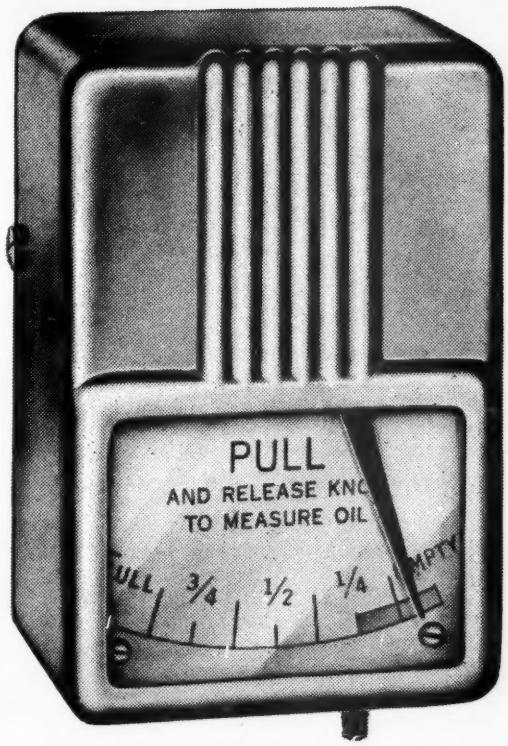
★ **FD** **Stoker, oil and gas fired units. Have extra long flue passes, large furnace volume and low water line assuring efficient heat transfer. Heat loss prevented by insulated steel fire and flue doors. Especially suitable for launderettes and commercials.**

***360,000 to 528,000 B.T.U. net output**

CONSULT YOUR JOBBER FOR PRICES NOW! *Write for free catalog.*

FEDERAL FBC BOILER CO. INC.
GRANITE & WEST STS., MIDLAND PARK, N. J.

FEDERAL BOILER CO., INC., General Offices FO4
2610 E. Tremont Ave., Bronx 61, N. Y.
Please send me free bulletins.
Name.....
Address.....



Size 2⅝" x 3⅞"

PROVEN and ACCEPTED
FUEL-O-METER
DISTANT READING
TANK GAGE

Beauty — Accuracy at Low Cost

DIRECT READING TANK GAUGES

•

ROCHESTER • GALONGAGE

•

HARVEY "K-G" GAUGE

•

OIL MEASURING DEVICES FOR TRUCK DRIVERS

GAUGE POLES

FOLDING GAUGE STICKS

PLASTIC GAUGE TAPE

SEE SID HARVEY'S BIG CATALOG for PARTS TO MAKE SICK OIL BURNERS WELL

Compare these outstanding features against those of any other gauge and see why it has been accepted by the thousands:

1. Accurate with any gravity of oil, including #6. No alterations, no change of model to gauge any oil.
2. Not affected by changes in pressure, temperature, or humidity.
3. No hazard on tank overfill. No liquid to leak out or replace. No glass to break.
4. Self cleaning.
5. Mount it anywhere, upstairs or down, to suit your customer.
6. Five standard tank sizes: 26"-27", 36", 42"-44", 48" and 65". Special sizes between 26" and 65" available at no extra cost. Tanks may be buried outside or located inside. Results are the same.
7. Unsurpassed good looks. Silver-bronze finish equal to any thermostat.
8. Operates on proven hydrostatic principle—no floats.
9. Satisfaction guaranteed—or money back.

Shipped complete with fittings and 25 ft. of ⅛" copper tube. Tubing in additional lengths available.

COSTS ONLY HALF as much as comparable gauges.

Manufactured by

STOCKED BY LEADING JOBBERS

New School Employs Best of Radiant and Convection Heat

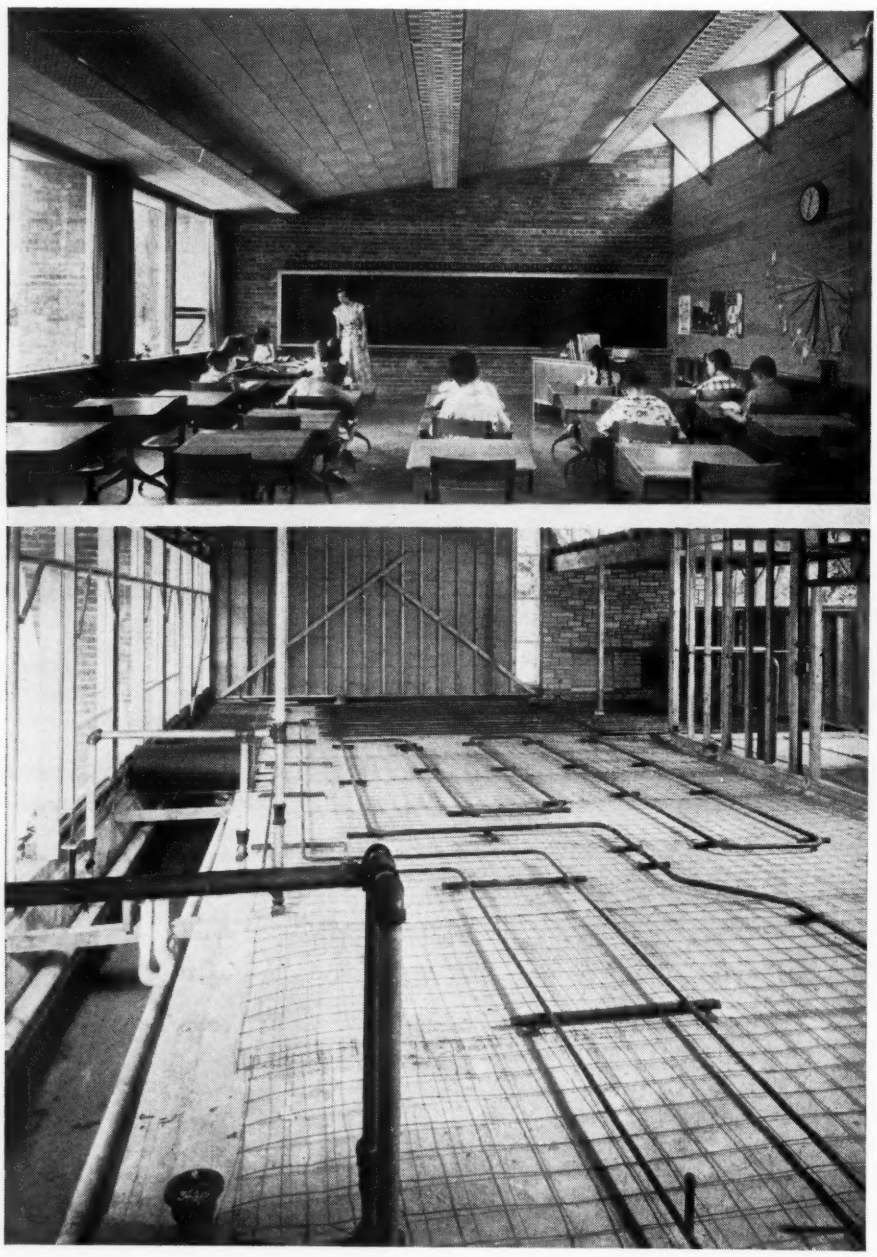
THE BEST FEATURES of both radiant floor heating and conventional convector systems have been combined in the new Clyde L. Lyon elementary school at Glenview, Ill., by Perkins & Will, architects and E. R. Gritschke, mechanical engineer, both of Chicago. The present 10-room school construction allows for future expansion to 16 classrooms. All is one-story construction.

With the "split" system, the convection heating carries the major share of the heating responsibility, while the floor-radiant system insures against cold floors—one drawback of the preferred "one story" type of schoolhouse construction. The floor radiant system, which responds to temperature changes relatively slowly, is controlled by outdoor thermostats, while interior thermostats control the more quickly responding convectors.

Heat losses common to most radiant systems are minimized through concentration of all mechanical supplies in a "perimeter" trench running the length of all outer walls of the classroom. Roofed over after installation, this tunnel becomes an effective barrier against moisture and cold and facilitates easy installation testing and maintenance of the mechanical supplies. This design contributed to a minimum installation cost for the radiant system.

Although Clyde L. Lyon was built during a period of peak building costs and materials shortages, its cost was average for the Chicago area. Total cost of the building, excluding architects' fees, was $367,924.00, or $12.43 per square foot.

Sub-contractor on plumbing and heating was the Northern Plumbing & Heating Co., Chicago. Suppliers included: Pacific Steel Boiler (boilers); American Blower Co. (fans); Johnson Service Co. (temperature controls); Trane (fin convectors); Bell & Gossett (radiant floor panels); Todd Shipyards (oilburner); and Vulcan (baseboard radiation).



A split system *using radiant floor heating in connection with convectors has been installed in the new Clyde L. Lyon elementary school, Glenview, Ill. The upper picture shows a class room with a warm floor and conventional convectors under the windows. The lower picture shows floor coils and the perimeter trench carrying all piping. Note closer spacing of floor coils in the kindergarten room at the rear.*

◈

Carl E. Bucholzer and *W. E. Mack* have been added to the staff of W. C. Newberg, president, Airtemp Div., Chrysler Corp., Dayton 1, Ohio. Mr. Bucholzer, with Airtemp since the organization first moved to Dayton, was named assistant to the president. Mr. Mack, with the Chrysler Corp., since 1935 and in Dayton with Airtemp since 1947, will handle special assignments for Mr. Newberg.

"Now don't work on things that will be expensive to have repaired after you get through fixing them!"

"Sure glad they're easy to install... so many people want them!"

The crated furnace, a layout and a minimum of work . . . that's all there is to installing a Superfex! Each comes packaged, ready for assembly. The internal wiring and piping is all done . . . leaving only the wiring to be run from the fuse box, the gas line from the meter and the sections to be joined together. The job's then completed!

AND, IT'S ACTUALLY TWO FURNACES IN ONE!

1. **A Powerful Cold-Weather Furnace,** *synchronizing its high fire with the full-volume speed of the blower.*

2. **An Easy-Going, Mild-Weather Furnace,** *automatically cuts back to low fire, synchronized with the low-speed of the blower. Home owners really appreciate the money-saving features of Superfex!*

NEVER MORE THAN 4° DIFFERENCE FLOOR-TO-CEILING!

The Superfex Winter Air-Conditioning Furnace is the only one which continuously delivers the right amount of heat from a three-stage fire, and continuously circulates and mixes it with a two-speed blower. The result is constant "homogenized" heat with never more than 4° variation, floor-to-ceiling. No layers of hot air at the ceiling! No cold air near the floor!

Superfex FURNACES

PERFECTION STOVE COMPANY

7195-A Platt Ave. • Cleveland 4, Ohio

A COMPLETE LINE OF WINTER AIR-CONDITIONING FURNACES—FOR GAS AND OIL

Tucloil & oil heat

Readers' Forum

QUAKER MANUFACTURING CO.
Chicago

Editor:

This letter criticizes a suggestion that was made in a recent issue of your magazine for improvement of the operation of oilburning space heaters with an economizer in the flue.

The matter of draft in natural draft oilburning space heaters always has been a problem, and it is unfortunate that the problem is "too little draft" instead of "too much" in most cases. It would be very simple to reduce and control excess draft.

If there was ample draft, or excess draft, an economizer on the back of a natural draft oilheater would of course reduce flue temperatures. We know that in the average natural draft heater the flue temperature on maximum high fire is high, but this is a necessary provision to insure reasonable operation on poor drafts—drafts that are below the normal rated need of the heater.

As long as twenty years ago we put a radiator, which was similar to this smoke economizer, on oilburning space heaters and we discovered very quickly that this added to our troubles of operation, and therefore, it was immediately discarded. I know of a number of manufacturers who have provided this extended heating surface on natural draft heaters, but I do not know of any case where it has been successful. I've known of dealers who actually had to cut off the economizers and make provision for running the smoke pipe direct from the body of the heater at a considerable expense to make the heater satisfactory.

It is entirely possible that this suggestion would not cause too much trouble because it would be added on the outside of the casing of a heater and if it didn't work out, it could be taken off, but the reason I am writing this letter is because I believe that a recommendation generally would be a very grave mistake and it would cause more problems than the fuel that it would save.

As you probably know, we have had mechanical draft available for all of our heaters, even those that were designed for natural draft, since 1939. Where we use mechanical draft as standard equipment, our heating surface is greatly extended; in fact, in our more expensive equipment, designed completely with mechanical draft, the heating surface is about 79% greater than in a standard natural draft heater.

All natural draft heaters which are labeled according to standard code must have an efficiency of 70% or more and I don't think that that is bad efficiency in a product that sells at the price of oilburning space heaters.

A. T. ATWILL

THE DOLE VALVE COMPANY
Chicago

Editor:

We welcome each issue of your excellent magazine, valuing the dependable guidance you provide on technical and sales aspects of our daily labors.

But now we must write you regarding a statement in a recent issue. The author says care should be taken in selecting a tempering valve used with a tankless water heater. We agree. Then he blasts our eyebrows skywards, saying according to his experi-

FYRITE
Combustion-Testing
MASTER KIT

Boosts Sales and Profits

Now, while your customers are totaling last season's heating costs, is the time to show them the inefficiencies of existing equipment by a dramatic "fuel-saving" test with the combustion-testing kit shown above. It's a cinch for closing new burner sales and getting profitable repair business.

Combustion-testing helps you make money in two ways. First, it boosts service profits because with instruments any service job can be done in less time and by less experienced men. Secondly, combustion testing is the only means to make sure that the burner is adjusted accurately when you leave the job, and this accurate adjustment means the end of needless call-backs which eats up the profits you made on the original installation.

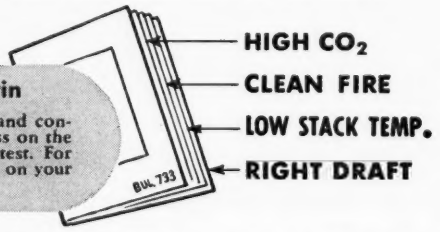
The Master Kit shown above is by far the most popular combustion-testing kit in the heating trade. It appeals particularly to those who want professional implements of highest quality and reliability, as well as of impressive display.

List price, $64.00. Other FYRITE Combustion-Testing Kits are priced from $48.00 list, up.

See the FYRITE Kits and our many other Service Instruments at your Jobber.

Send Now for Free Bulletin

Bulletin 733 describes the Master Kit and contains information of every day usefulness on the four important steps of a combustion test. For your free copy, tear this clipping, paste on your letterhead and mail *today*.



BACHARACH INDUSTRIAL INSTRUMENT CO., 7000 Bennett St., Pittsburgh 8, Pa.

Feature

"The Standard of the Industry"

now used by

68

leading heating manufacturers as standard equipment in their oil burning units

AUTOMATIC
BURNER
CORPORATION

1823 Carroll Avenue, Chicago 12, Ill.

Write today for information on ABC

ence "tempering valves with internal thermal elements are to be avoided."

The article shows a mixing valve with an external temperature-sensitive bulb. Years ago many mixing valves or tempering valves of this type were used, before present-day mixing valves of the self-contained type had been developed to their present near-perfection, and before many mixing valves were used in homes. Today, the relatively few mixing valves of the external-bulb type being installed are used mostly for commercial and industrial applications; old-time engineers and power plant men developed the habit of using this type valve years ago, and in some instances stick today to this type. Reading your magazine could teach them to use the newer self-contained valves preferred today by almost all men who select and install such equipment.

Incidentally, we are the world's largest manufacturer of mixing valves (4,000 per day). Please consider that. Almost 2,000,000 Dole self-contained mixers are now in use on automatic washing machines alone.

According to our ideas, the mixing valve in your diagram is in the wrong location. Years ago, Dole made intensive investigations on proper use of mixing valves. Our pioneer work led to a new idea.

In a nut shell: Where feasible, locate the mixing valve lower than the source of hot water, where the valve will cool (not stay hot) when no hot water is being drawn through it by the opening of a faucet. This has been our definite instruction for twenty years. Only during periods of actual use will the valve be hot; our research work proves these periods come to a total of not more than five per cent of any 24-hour period, on typical installations. Installed properly, a mixing valve becomes cold when no hot water is being drawn through it. This prolongs the life of the valve, reduces lime depositing tremendously, and increases satisfaction enormously.

For those interested in tankless heaters, we have worked out new developments. Our new tankless control is aimed specifically to solve the main trouble of tankless heaters—overdrawing.

J. F. LUND

V. & E. PRODUCTS, INC.
Schuylkill Haven, Pa.

Editor:

I heartily concur with the thoughts expressed in Editorial Leaks for March. This editorial could well be followed by reporting Robert E. Wilson's speech at the Freedom Dinner of the Transportation Association of America in Chicago on November 30, 1949.

Everywhere possible and again and again and again, we must stress the vital importance of avoiding Government "help." Every single "aid" received from Government forges one more link in the chain that Government is slowly but surely winding around us.

LIONEL L. JACOBS

* * *

DICKEY COUNTY LEADER
Ellendale, N. D.

Editor:

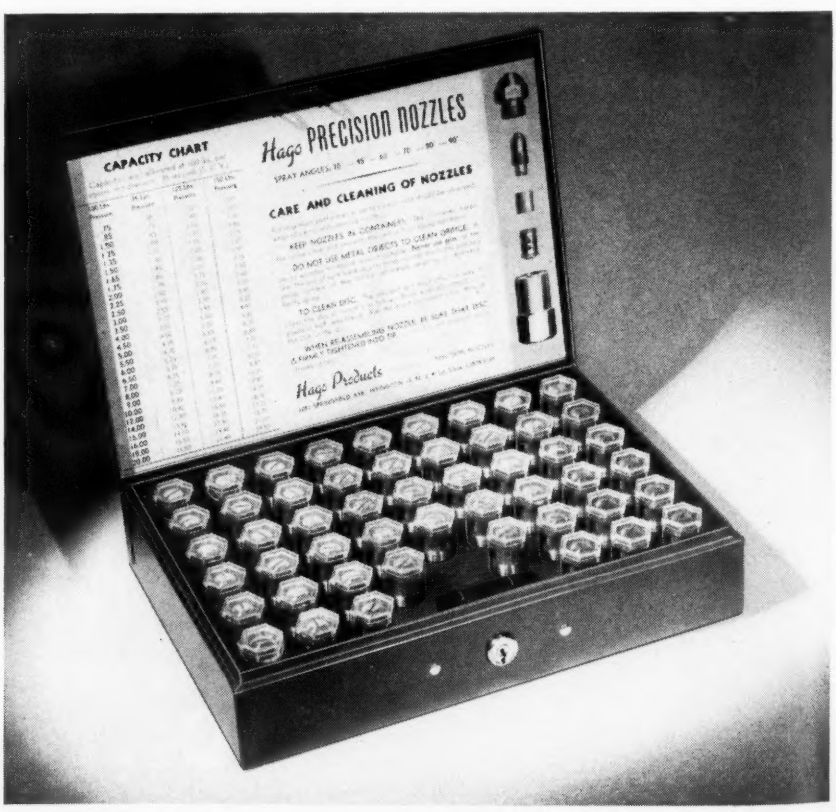
I always look forward to receiving my copy of FUELOIL & OIL HEAT; first I look for the technical and practical articles, then read your editorial column. I'd like to express a few cheers for your editorial views.

Hago

Nozzle Boxes

THE NEW METAL NOZZLE BOX WILL HOLD 50 NOZZLES (ADAPTERS CAN BE SUBSTITUTED FOR SOME OF THE NOZZLE CONTAINERS).

SIZE: 10¼ x 7¼ x 2¼



Hago Products - 1281 Springfield Ave., Irvington 11, N. J.

Yes, the YORK-HEAT Dealer Franchise for 1950 is the most valuable in the industry being backed up by the industry's longest line of automatic heating equipment and a merchandising program designed to sell this equipment. We invite you to visit our display at the Oil Heat Show in Philadelphia or to write for further details to York-Shipley, Inc., York 4, Penna.

Boiler Units Oil & Gas Fired | Winter Air-Conditioners Oil & Gas Fired | Conversion Burners Oil & Gas Fired | Water Heaters Oil Fired | Steam-Pak Generators Oil and/or Gas Fired | York Power Industrial Oil Fired Burners

YORK-HEAT *Automatic Heat At Its Finest*

I'm afraid you aren't a New Dealer, a Fair Dealer, or an advocate of the welfare state. Well, neither am I. I'm old enough, and old-fashioned enough, to believe that the sort of way of life which made this country great can carry us on to still greater accomplishment. To me, the terms bureaucracy and dictatorship are practically synonymous and equally distasteful. We have certainly gone a long way since 1933 when Mr. Roosevelt gave us a new concept. Personally, I wouldn't like it fried in butter.

In an academic sort of way I am interested in the talk about gas as a method of heating, but only academically. I like oil too well, and personally, I'm afraid of gas. The only kind we have here is the bottle variety, but every now and then somebody gets blown up with it. I suppose an oil burner could start a fire, too, but we've never had a case of it. Maybe I'm just ignorant, like my plumber friend who was afraid of oil for years, but finally installed a burner last fall. He says he never knew what comfort was before, and the only objection he has to it is that there isn't a thing to do to keep it running. Maybe if I knew more about gas, I'd like it better, but I have no interest in finding out. However, I can see that it is a real competitor in some areas, and probably the oil burner people need to be jolted a bit.

This doesn't require an answer; I just felt like giving you a hand on your silly, horse-and-buggy attitude.

H. J. GODDARD

* * *

A. B. CUNNINGHAM & SON
Baltimore 1, Md.

Editor:

It was most interesting to read the first article in your Editorial Leaks and Mr. S. C. Belfield's comments in the March issue, all of which pertained to this invasion of gas into our most coveted oilburning territory. As regards this subject generally I hear a few things that I concur with, but most of the action that is being taken on this matter is a vast deviation from the underlying principles of business, with which we are all familiar, but with which some of us in the oilburner industry are trying to become un-familiar.

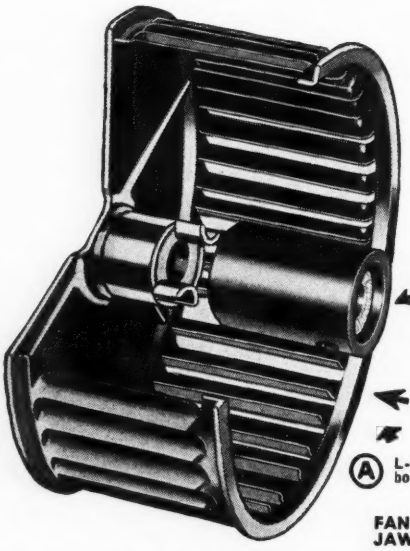
In view of the fact that everything else is heavily taxed these days, I presume that natural gas should also carry its burden. However, the reason that taxes are being recommended on it by some is foolish, short-sighted and furthermore cannot possibly increase the use of oilburners.

Mr. Belfield comes pretty close to hitting the nail on the head. In this writer's opinion, one of the main reasons that gas for domestic heating is being so rapidly accepted in some areas is that the oilburner industry in those areas has been kicking the public around for so long that these users are quite willing to listen to anyone who says he can get them out of their trouble. The distribution of the oil and perhaps a lot of the service is the oil man's business. It's true that uninterrupted service must be cheerfully given. This bad catalytic oil problem which we have had since the war hasn't helped the service situation any. In connection with this and other service matters, the oilburner dealers, distributors and manufacturers have been pulling against each other so long that they have forgotten that in order for oilheating to continue to grow, the entire industry must pull together.

Save TIME • Save LABOR Save COSTS!

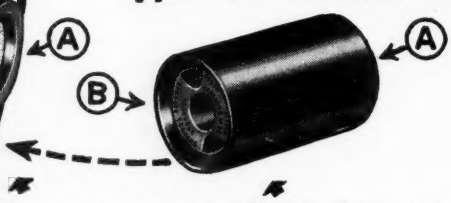
by coupling your oil burners with

LOVEJOY L-R FLEXIBLE COUPLINGS



"Standard in this industry" is testimony won by years of Lovejoy performance — long, trouble free service — ease of installation — *economy.* Here is *positive* correction for misalignment, shock, surge, vibration, backlash, *with extreme quiet.*

Type CX Double-flex



(A) L-R Body inserted (not bonded) in rubber body. (B) L-R Socket actually molded in the rubber (no metal) engages blower hub.

FAN MANUFACTURERS SUPPLY BLOWERS WITH L-R JAWS ON BLOWER HUBS AT NO EXTRA COST.

Easy installation in close quarters

In close or dark quarters Lovejoy's simple assembly makes installation quick, sure and easy! The CX Double-flex cannot fall off when blower and pump units are serviced. The coupling fits tightly, always free from rattle. Here is fool-proof, maintenance-saving, coupling for pumps, fans, blowers, power transmission from motor to equipment!

Get all the details in Lovejoy Bulletin 530. Phone, wire or write.

OHI

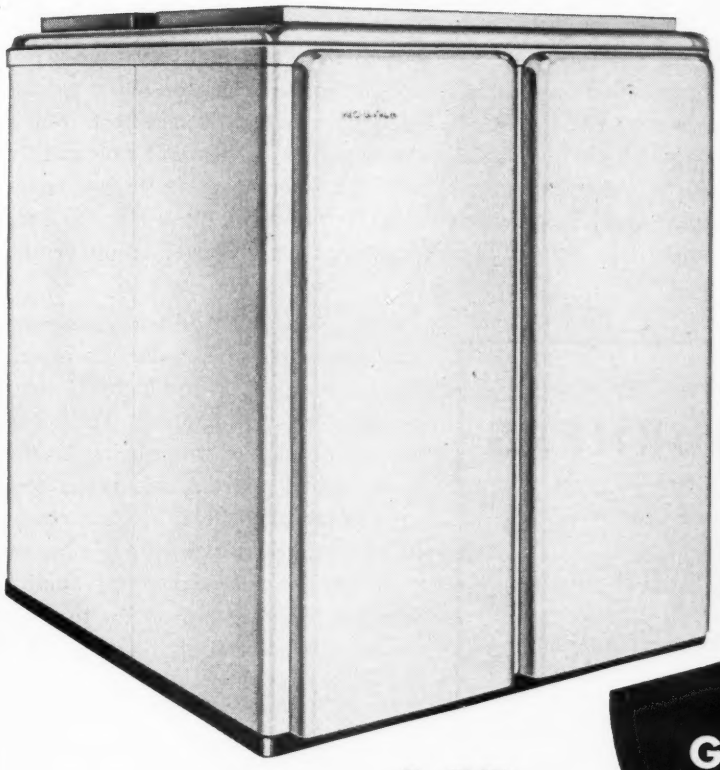
LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street • Chicago 44, Ill.

Mfrs. of Lovejoy Flexible Couplings for all industrial services, Lovejoy Variable Speed Transmissions and Lovejoy Universal Joints.

Check from *Any* Angle

Design
Performance
Low Cost



No. CL-200
Gas Fired Air
Conditioning Unit with
cast iron Heating Element.

And the *Complete* RANGE OF SIZES of MONCRIEF'S *Cast Iron* Gas Fired Gravity and Air Conditioning Units

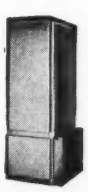
Revolutionary . . . Outstanding . . . and "Years Ahead" design and construction features are provided in all models of Moncrief's Incomparable and complete line of CAST IRON, gas-fired heating units.

Moncrief CAST IRON units feature—heavy, durable, round combustion chambers . . . large one-piece radiators with readily accessible clean-out ports . . . horizontal joints that are leak-proof *without* cementing and a smartly styled, baked enameled cabinet so ingeniously designed that the entire heating elements can be removed in a matter of minutes without disturbing ducts or plenum chambers.

This series of CAST IRON units contains the type and size for any heating installation where the buyer demands the finest in CAST IRON heating equipment. Sizes from 50,000 BTU to 200,000 BTU input per hour.

Your Moncrief jobber can supply you with any size or style.

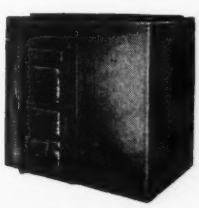
Series L
Gas-Fired Steel
Air Conditioning Unit.



Series U
Gas-Fired,
Steel Utility
Air Conditioning Unit.

Series P
Gun, Oil-Fired
Air Conditioning
Unit. Steel
heating element.

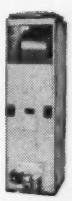
Series W
Gas-Fired
Gravity Furnace.
Available with Steel
or Cast Iron
heating element.



Series AC-F
Coal-Fired, Steel
Air Conditioning
Unit.

Series G
Coal-Fired,
Cast Iron,
Gravity
Furnace.

No. VC-95-E
Gas, Counter-
flow Unit, for
Floor Slab,
Perimeter
heating.



No. VVC-75-E
Oil, Counter-
flow Unit, for
Floor Slab,
Perimeter
heating.

THE HENRY FURNACE COMPANY

Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

fuel oil & oil heat

I talked to a man only today who had taken his oilburner out and thrown it away after two years and replaced it with another make. He said the man who sold him the new burner told him that his present one was "no good." I happen to know the burner which was taken out. It's a good burner but it was a "sick" burner. This user is out $300.00 for a new burner when he could have had his original installation fixed up for probably less than $50.00. I frankly told him that he was a sucker and he agreed. Good will for the industry certainly isn't built up with this kind of thing. It happens every day with all makes and kinds of burners. It is no wonder that a lot of people who use oilburners are a little fed up.

There are very few good vaporizing burner service men in the field these days. Still there are a whole lot of vaporizing burners installed in people's houses. The rule seems to be that when a pressure burner man looks at a vaporizing installation, he immediately says that the job should be replaced with a pressure burner unit. This is usually for the reason that he hasn't taken time to find out how to service the particular type of vaporizing unit. About all he has to do is to go to the manufacturer or distributor for service information, but he'd rather knock another hole in the entire industry's organization than to be put to this trouble. Every time a man does a thing like this, he sells a gas furnace to somebody somewhere. Maybe the customer he has will re-install another oilburner for one reason or another, but he won't like it much and will probably start recommending gas equipment to his friends.

Down here in Baltimore some constructive work is being done as regards this gas competition and it will be interesting to see what happens. The burner and oil people are going to try to give better delivery service and better service. I talked to one oil distributor recently who said he'd fix anybody's burner, regardless of the make. His opinion, which is entirely correct, is that any burner is a good burner and can, with the proper handling be made to work. Regardless of catalytic oils, sub-standard parts and equipment which may have been put out during the materials shortage, the main thing wrong with any burner is the man who handles and services it. In Baltimore considerable advertising will be done from time to time pointing out the exact facts on comparative cost basis. Many people in the business have contributed cash donations to support this movement. Along with this goes a good housecleaning within the industry itself.

I think that if we could also keep a lot of these oilburner dealers from turning to gas and keep them pushing oil, it would help a whole lot. I have noticed in FUELOIL & OIL HEAT some good suggestions along these lines in past issues. If we could teach all dealers that there is more profit in oilburners than gas burners and give them some good reasons why perhaps they could be kept in the fold. Too many in Baltimore are taking the easiest road at present and have quit oilburners largely in favor of gas which, at present, due to propaganda, is easier selling. Quite a few are continuing on with oilburners and they are selling just as many if not more than usual and are making more money.

W. E. CUNNINGHAM

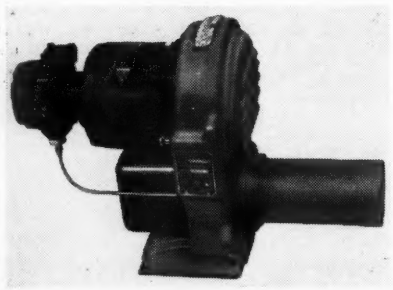
"Plate Mounted" BURNERS

developed and made only by one manufacturer—

THE R. W. BECKETT CORP.

The Beckett "Plate Mounted" burner represents the most outstanding achievement in the design of oil burners for unit applications.

- Fool-proof installation. Burner always installed in correct position.
- Tighten only four nuts to mount burner.
- All adjustments accessible and all parts readily interchangeable from back of burner.
- Sixteen U.S. and foreign Patents prove Beckett principles must be different.



Also, conversion type burners for all oil rates from .75 to 13 gph—The ultimate in Dependability, Efficiency and Serviceability.

Write for complete information. We will be glad to furnish detailed information and to meet with your representatives.

THE R. W. BECKETT CORP.
ELYRIA, OHIO

YOU CAN MAKE PROFIT
ALL 12 MONTHS OF THE YEAR

Quiet Kool Room Air Conditioners

Model G-7
¾ H.P. Also
available in ½ H.P.

Some choice locations still available for distributors

Another* QUIET-HEET *Product designed to assure oil burner distributors and dealers a handsome year-round profit.

Check QUIET KOOL'S top quality features:

- ✓ QUIET in operation
- ✓ EASY to install
- ✓ TECUMSEH compressor
- ✓ SLINGER RING removes condensation
- ✓ CLEANS air of dust, dirt and pollen
- ✓ DEHUMIDIFIES

THE WORLD'S LARGEST MANUFACTURERS OF OIL BURNERS

Quiet-Heet's long record of proven dependability assures customer satisfaction because QUIET KOOL combines maximum comfort at minimum cost.

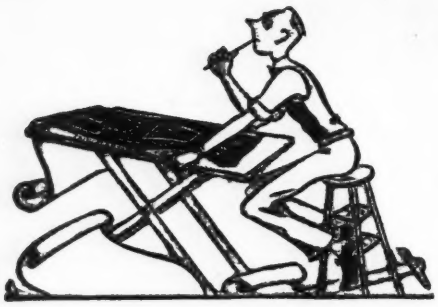
ORDER YOUR SAMPLE NOW!
Complete details available upon request

SEE THE QUIET-HEET LINE AT THE O.H.I. SHOW, PHILADELPHIA, WEEK OF APRIL 24TH. SPACE NO. 242

The* QUIET-HEET *line:

Oil Burners
Gas Burners
Room Air Conditioners
Sump Pumps

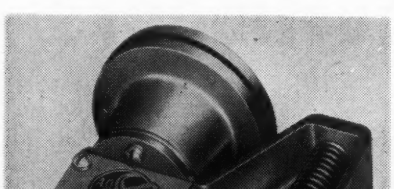
QUIET-HEET MFG. CORP. 135 N. J. RAILROAD AVE. NEWARK 5, NEW JERSEY



New Products

Smithway Engine Controller For Pumps On Tank Trucks

AN AUTOMATIC ENGINE CONTROLLER, produced by A. O. Smith Corp., Meter Div., Los Angeles 22, Cal., is a pressure-activated device that operates engines of tank trucks at pumping speed only



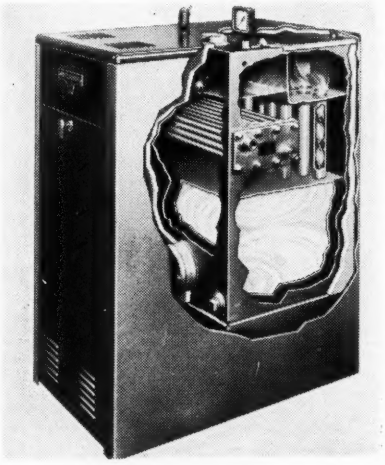
when pumping and returns them to idling speed at all other times. The device employs a diaphragm which moves in response to varying pressures on the outlet side of the transfer pump, the movement being linked to the carburetor throttle rod to give the desired engine speed.

For satisfactory operation, it is recommended, that the pump by-pass pressure should exceed the normal delivery pressure by approximately 10 psi. In use, the controller permits a driver to unreel his fueloil hose to the point of delivery and pump oil into the tank without returning to the truck to shift the power takeoff manually to turn pump and speed up the engine.

New Fitzgibbons "200" For Smallest Home Needs

A NEW SQUARE, steel boiler added to its "200" series by Fitzgibbons Boiler Co., Inc., New York 17, N. Y., has been sized to provide heat for the smallest homes. With a width and depth of only 22⅞", and 37½" bare boiler height, the boiler can pass through the average door and, since it operates with gas or oilfiring on a 15 ft. chimney, it is described as ideal for one story bungalow or ranch type homes.

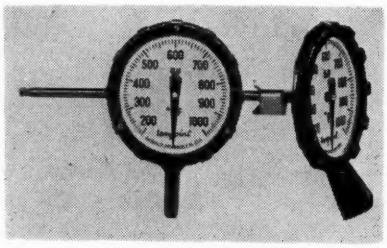
Sizes are 440 and 510 sq. ft. net load for hot water heat, 275 and 320 sq. ft. net load for steam. In common with all



Fitzgibbons steel boilers, the new model is of flange quality, mill test, tested and rated under the SBI Code and inspected by "Hartford." Features include a large firebox, rapid circulation, quick installation and easy cleaning. A TANKSAVER, copper coil submerged in the boiler water, delivers domestic hot water at a rate up to 170 gph, 100 degrees rise with boiler water at 180 degrees F.

Tempoint Dial Thermometer Indicates Up to 1000 Degrees

TEMPOINT dial thermometers, introduced by Bacharach Industrial Instrument Co., Pittsburgh, Pa., indicate temperatures from 200 to 1000 degrees F, and comprise a 3" diameter body and a stainless steel stem, 5½" free length with only 2" immersion required for readings. Bezel of the body is high tem-



perature bakelite, having a glass window sealed with a silicon gasket. A V-shaped pointer colored bright red improves readability, as does the instrument's large non-glare scale, large numerals and graduations.

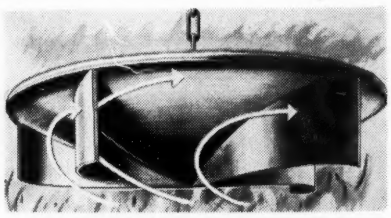
Fast thermal response is secured by a powerful bi-metal coil element, expansion of which rotates an attached small shaft and the indicating pointer as a unit. A sleeve holder permits mounting the thermometer over a hole without tools of any kind. The thermometer's handle is an integral part of the bezel.

Selecto Screw Driver With Interchangeable Bits

SELECTO 3-in-1 screw drivers, with a magazine-loading feature, now are available nationally according to Selecto Products Co., Cleveland, Ohio. One of the bits is for round-head, a second for flat-head screws and the third for Phillips-head screws. Two of the bits are in the handle, the third in place for use. To change, the bit in use is removed, pushed into the handle and another moves into place. The bits are made of rust-proofed steel, the amber-colored plastic handle is non-breakable and fire-safe.

Fire-Swirl Baffle Plate Creates Centrifugal Force

A NEWLY DESIGNED baffle plate, announced by the Zeh Co., Passaic, N. J., is designed to produce swirling action



in a boiler or furnace. Known as Fire-Swirl, the baffle is adaptable to any heating unit and is shipped in two halves for easy installation.

It can be suspended from a chain above the firebox, or attached by chain to an adjustable arm secured in the firebox door. Fire-Swirl is made from malleable cast-iron and incorporates directional fins on its under surface, which slow up flue gases and impart a circular motion to them.

Quality Specialty Adds No. 30 Flow Control Valves

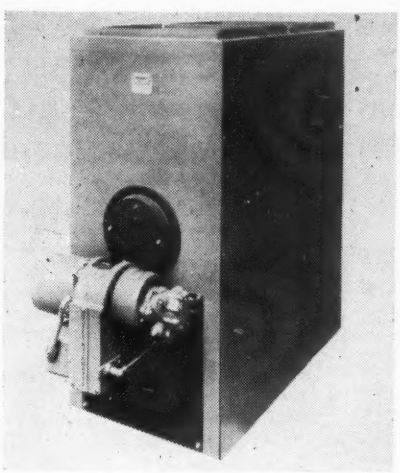
NO. 30 ANGLE VALVE, recently added to the line of Q S flow control valves of-

fered by Quality Specialty Co., Philadelphia 6, Pa., features a screw thread in the bottom outlet, with two other outlets for sweat fittings. No. 20 Angle and No. 25 Tee are two other models in the line.

Designed for all types of forced hot water heating, the Q S bronze "Sweat-Flow" control valves may be sweated onto lines and need no adaptors. Other valves include a No. 10 Angle and a No. 15 two-directional model. Each valve is subjected to a 115 lb. pressure test before being shipped. In adjusting for gravity flow, the adjustment lever is turned one complete turn to its highest position. For automatic operation, the lever is turned to its lowest position. No other adjustments are necessary.

Quiet Automatic Lowboy Unit Available In Three Sizes

THREE SIZES of a Lowboy oilfired warm air furnace are offered by Quiet Automatic Burner Corp., Montclair, N. J. Btu outputs of 70,000, 90,000 and 110,000 are produced by the units, which feature a gas-tight heat exchanger made



from 12-gauge steel, corrugated to increase the prime heating surface.

The Lowboy is shipped completely factory assembled, including a dynamically-balanced blower unit to provide forced circulation of filtered air through the furnace. A stainless steel combustion chamber is built-in. The units measure 40" high, 40" deep and 20" wide, small enough to pass through the average size door.

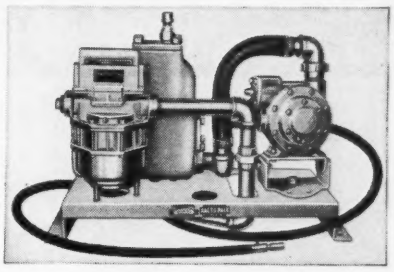
Bard Air Filter Employs Aluminum Wool Fibers

AN OILLESS, permanent air filter for forced warm air heating systems is being produced by Bard Mfg. Co., Bryan, Ohio. "A-Lum-O" filters employ an element made of aluminum wool fibers, packed in graduated density in an aluminized steel frame with a cadmium-plated retaining mesh.

In describing the filter, Bard points out that it can be washed clean in sixty seconds with plain water. The filters are made in all standard sizes.

Bowser Xactopack Meter Unit With Power Pump

A TANK TRUCK METERING UNIT with



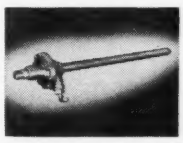
power pump, the Xactopack, mounted on an adjustable trunion base to permit

NO OTHER
Oil-Fired Equipment
Can Match Electrol

Complete Line: Oil Burners • Air Conditioners
Water Heaters • Boilers

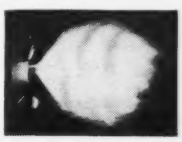
NO ONE HAS THESE EXCLUSIVE SALES FEATURES! ENTIRELY DIFFERENT BURNER!

Cut-off Valve



No other burner has this quick shut-off valve at nozzle. No oil drooling. No fouled nozzles. No after drip. No costly magnetic valves needed. Less service.

Ball Flame



No other burner has this suspended intense flame. Rotating fire never touches wall of chamber. Burns 100% "cat-cracked" oil without adjustment. Cleaner Boilers. Less service.

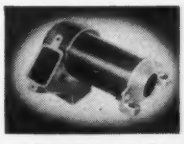
Master Control

No other burner has a control operating on clean air instead of corrosive flue gases. Burner mounted, wired and tested at factory. No relays. No transformers. Less service.

Thermo-Loop

No other burner has this pure nickel heat exchanger. Operates safety control on pure air. Located right in combustion chamber. Constant performance regardless of flue gas temperature. Less service.

Spiralon



No other burner uses a large expensive casting to deliver air to combustion head. Because of this, no other burner has Electrol's intense flame. Highest alloy flame director. Prevents burnt air tubes. Less service.

SINCE 1918
ELECTROL
BURNER MANUFACTURING CO., INC.
Rutherford New Jersey
FAMOUS BALL FLAME EFFICIENCY

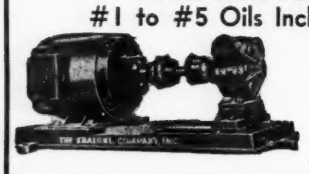
VISIT US AT PHILADELPHIA —BOOTH 234

DEALERS! You'll find Electrol Easier to Sell! . . . Exclusive Sales Agencies Available! Write Today For Details!

KRAISSL

PUMPS AND SEPARATORS
FOR OIL BURNER SERVICE

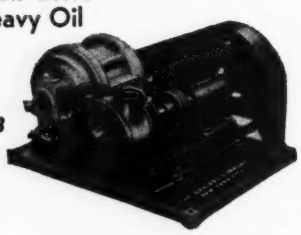
CLASS 50 LIGHT OIL PUMPS
Direct Drive For
#1 to #5 Oils Inclusive



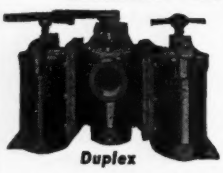
Ask For Bulletin A-1330

CLASS 60 HEAVY OIL PUMPS
Reduction Drive
For Heavy Oil

Ask For Bulletin No. A-1193



CLASS 72 STRAINERS—FILTERS
Single and Duplex
Standard and High Pressure
Baskets instantly and easily changed
— eliminates filter replacement costs entirely.



Duplex

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Single

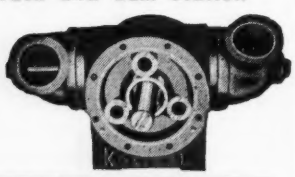
FOR BULK STATION SERVICE

CLASS 60M MOTORED PUMPS
Direct Drive
For Exclusive Use With
Light Oils and Solvents

Ask For Bulletin No. A-1267

CLASS 80 TRI-ROL PUMPS
Interchangeable Service
Both Light and Heavy Oils
Tank Truck and Bulk Station

Ask For Bulletin No. A-1366



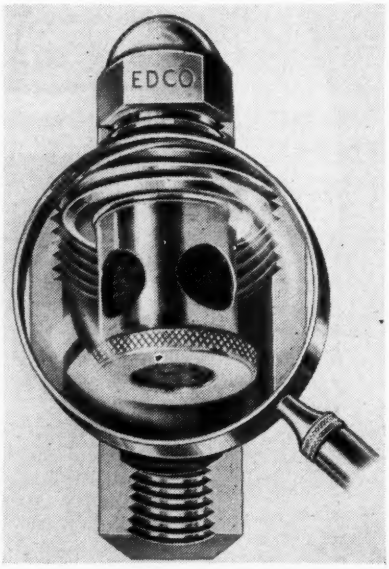
KRAISSL CO. Inc.
295 WILLIAMS AVE., HACKENSACK, N. J.

in-line installation of the flexible cable drive, has been announced by Bowser, Inc., Fort Wayne, Ind. With a capacity of 25 gpm, measurement is provided by the Bowser Xacto meter, with accurate deliveries and meter protection claimed by reason of an effective air release with built-in strainer.

The pump mounting base has a lateral adjustment of 90 degrees, vertical of 35 degrees, for properly aligning with the flexible cable drive. The cable is made of seven layers of music wire wound to operate in either direction of rotation. It is encased successively in a spring steel liner, a braided wire secondary cover and a synthetic outer jacket. Dust is kept out of the bearing by a dust-flinger groove on the power take-off.

Eddington Announces New Nozzle Filter

A NOZZLE FILTER, introduced by Eddington Metal Specialty Co., Eddington, Pa., is designed to remove any fine solid particles which may be lodged in the fuel line between the fuel pump and nozzle.

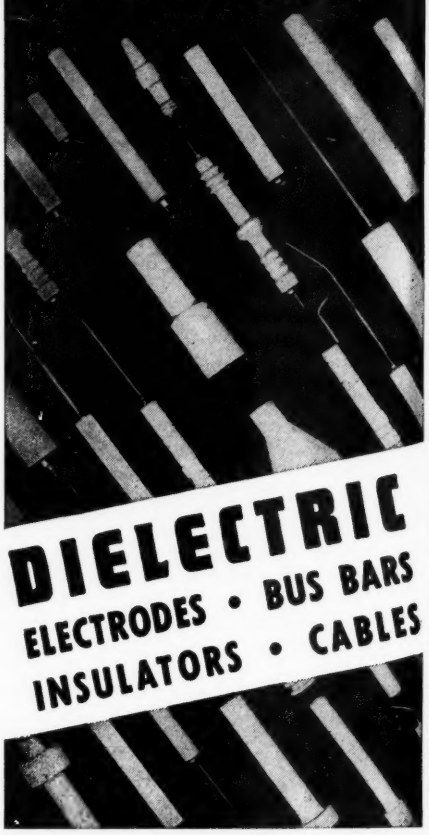


It is intended for use on small capacity nozzles, .6, .75, .85, 1 and 1.2 gph rates, recommended to filter out particles in the oil line beyond the point where a regular filter may be installed.

Columbia Boiler Adds Conversion Burner Line

UPRIGHT and inverted flange and pedestal-mounted conversion oilburners are an addition to the line available from Columbia Boiler Co., Pottstown, Pa. Three sizes, ranging in capacity from

The Most Widely Used Ignition Assemblies for Oil Burners



DIELECTRIC
ELECTRODES • BUS BARS
INSULATORS • CABLES

STANDARD AND SPECIAL ASSEMBLIES IN ALL TYPES AND LENGTHS

The majority of oil burners being installed or serviced today are equipped with Dielectric electrode assemblies . . . and for good reason—

1—They are made with the finest steatite insulators and electrode tips . . . in any designs to meet specific burner requirements.

2—They have all Underwriters Laboratories, Inc., approvals.

3—Standard assemblies are available for quick delivery.

4—Assemblies with special insulator and electrode sizes and shapes can be made on short notice.

In addition, Dielectric high tension cable assemblies and Dielectric bus bars for transformer and electrode layouts are available for any practical burner hook-up.

Let Dielectric's complete, prompt engineering cooperation help improve your burner and expedite production. Write for bulletin.

DIELECTRIC
PRODUCTS CO., Inc.
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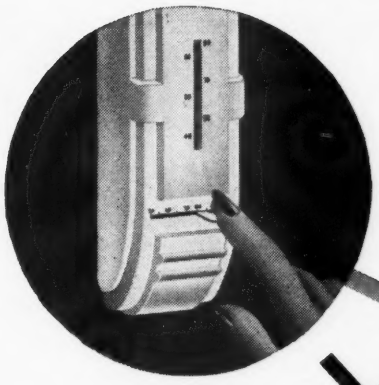


when the heat's on...

KC

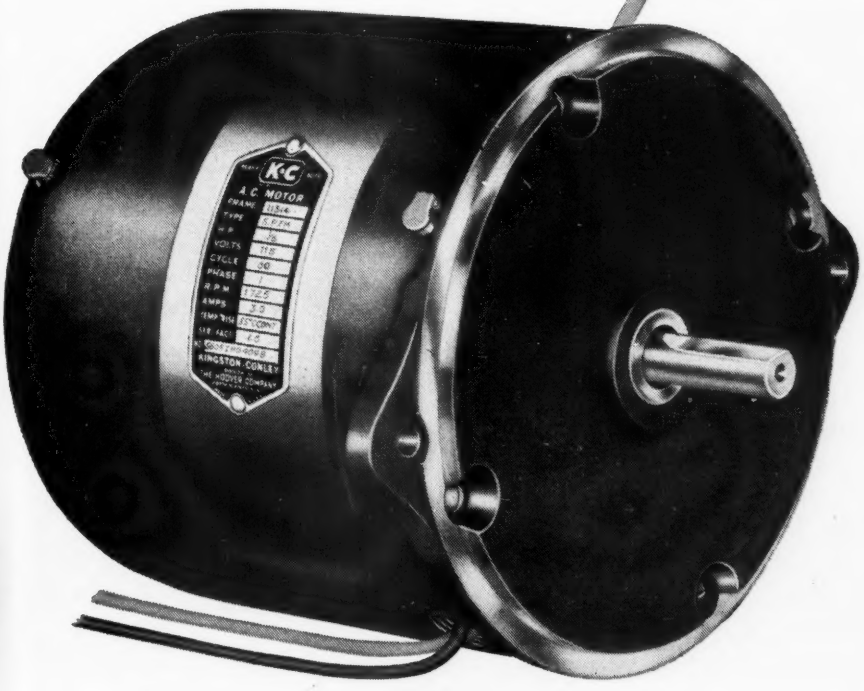
Electric Motors guard your good name

When a thermostat calls for heat, an oil burner's good name may hang on the performance of its electric motor. That's one big reason why so many manufacturers specify K-C Motors to power their burners!

K-C Motors give smooth, quiet, trouble-free service—even under hard, continuous use. They're completely reliable, because they're built like motors costing far, far more.

Many burner manufacturers, planning production schedules now for the July rush, are already ordering K-C Motors. If *you* build burners, shouldn't you find out about K-C Motors, too?

Of course there are K-C Motors for many special purposes in addition to oil burners. Whatever job you have on your equipment, there's sure to be a K-C Motor to meet your need . . . to guard *your* good name.



K-C Oil Burner Motors in ratings of 1/8 and 1/6 HP are built to conform with NEMA mounting standards . . . are approved by Underwriters' Laboratories . . . and feature 1725-RPM speed, long-life bronze sleeve bearings, and totally enclosed construction.

Write today for complete information—on oil burner motors or on other special motors built for other purposes.

THE HOOVER COMPANY
North Canton, Ohio
Kingston-Conley Division
72 Brook Avenue
North Plainfield, New Jersey

fueloil & oil heat

NEW

OIL SHUT OFF VALVES by Guardian

Series 1200 Individual Tank Control Valve. Available in 3/8"—1/2"—3/4" male inlet—3/8" and 1/2" flared and compression outlets.

No. 1900 Oil Filter Valve

No. 1300 Two Tank Control Valve Assembly

No. 1600 Underground Tank Valve

No. 1400 Globe Valve for Oil, Water or Gas

If you think all oil valves are alike, take a look at the new GUARDIAN line of oil control valves, designed for oil line service . . . built with precision . . . accurately machined to perfect tolerances.

Check these GUARDIAN features and see the difference!

- Made of extruded brass bar stock.
- Outlet joined to body by a silver soldering process guaranteeing perfect connection.
- Metal-to-metal seating insures perfect closing, eliminates usual deterioration, assures longer life.
- Precision tapered seat in the valve body with radius on stem prevents parts from locking . . . gives smoother valve operation.
- Adjustable packing nut with special J-M graphite-asbestos packing especially designed for oil.

Complete specification data now available. Write for Bulletin V-101.

Ask about Guardian Flexible Couplings—Over 4 million in use!

See the Complete GUARDIAN Line At Boo h 645 National Oil Heat Exposition April 24-28, 1950 Philadelphia, Pa.

Guardian PRODUCTS CORP.
VALVE DIVISION
DEPT. F-3, 1215 EAST SECOND STREET
Michigan City, Indiana

.75 to 7 gph are offered, featuring the Shell-designed combustion head.

The entire housing of the burners, with special breach mount for the combustion head, has been designed so that removal of one cap screw makes the entire assembly accessible for inspection. Other standard features include an electrical solenoid fuel shut-off valve, motor overload protection and transformer equipped with an external junction box.

Artis Metals Expands Chimney Accessory Line

THE LINE of chimney accessories, available from Artis Metals Co., Inc., Boise, Idaho, has been expanded. The Vacuum Cap, chimney ventilator, now is offered in four models. Round models, O and W, are for gas or oilfired installations and coal or wood, respectively; a series is available for use with oval vent pipes and a square type for chimneys where the tile extends beyond the chimney extension.

The Vacuum Cap is a gravity ventilator, constructed of aluminum, with a series of vanes, designed so that it is impossible to have a back draft. When the wind strikes from any angle, a partial vacuum is formed and the chimney is vented of flue gases. Elimination of outside air from entering the chimney and freedom from chimney condensation are two major advantages claimed for the cap.

Available also are chimney extensions, roof jacks and adjustable dampers.

Breather Vent Pipe Plugs With Dry-Seal Thread

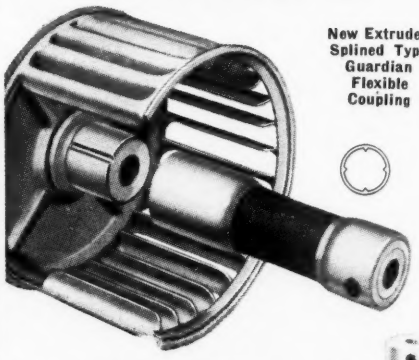
BREATHER VENT pipe plugs, produced by U. S. Plug & Fitting Co., Cleveland 15, Ohio, are furnished with a Dry-Seal thread, in cast iron, brass or steel types, for pipe sizes from 1/8" to 4" inclusive. They permit venting and prevent foreign material from entering the pipe. Available in standard square head or countersunk style.

Hallmark Furnace Line By Heating Specialties

A LINE OF HALLMARK gas or oilfired warm air furnaces has been announced by Heating Specialties Co., Baltimore 29, Md. They feature a deep corrugated Heat exchanger and are available with bonnet ratings of 70, 90 and 110 thou-

86%

NOW USE Guardian COUPLINGS



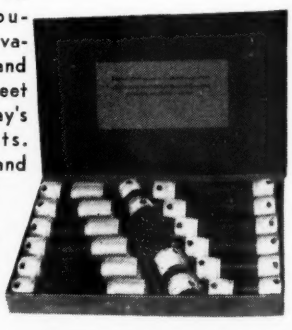
New Extruded Splined Type Guardian Flexible Coupling

Regular set screw type

Yes . . . 86% of the nation's original equipment manufacturers of oil burners in the United States are using Guardian flexible couplings. This enviable position was earned through dependability, quiet operation and long life in millions of installations. Specially treated for oil resistance . . . nothing to lubricate . . . nothing to get out of order . . . easy to install. Guardian Flexible Couplings are available in the regular set-screw type and in the new extruded splined sleeve design, fitting the hub with a close .001 inch tolerance. Both types are supplied in a variety of standard sizes or to your specifications.

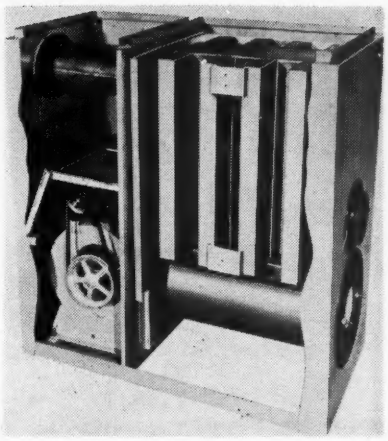
COMPLETE ASSORTMENT SERVICE KIT

Contains both types of couplings in a variety of sizes and bushings to meet 97% of today's requirements. Keep it filled and be ready to make the extra profits on flexible coupling replacements.



See The Complete GUARDIAN Line At Booth 645 National Oil Heat Exposition April 24-28, 1950 Philadelphia, Pa.

Guardian PRODUCTS CORP.
COUPLING DIVISION
DEPT. F2, 1231 E. SECOND STREET
MICHIGAN CITY, INDIANA

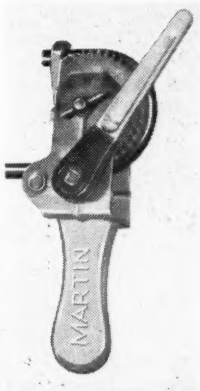


sand Btu/hr. Completely factory assembled, these 12 gauge furnaces are compact enough to be moved through the average door.

The heat exchanger corrugations are 5" deep, concentrating a large amount of heating surface in a small area, decreasing over-all furnace size. Lowboy models are sized for the average home; highboy models require only 3-1/3 ft. of floor area, designed to fit into a small basement or utility room.

Martin Hand Bender For Copper and Aluminum Tubing

TWO SIZES of hand benders for soft copper and aluminum tubing are made by W. H. Martin Tube Benders, Owensboro, Ky. No. 5 bends either 3/8" or 1/2" soft tubing; No. 5-A, either 1/2" or 5/8" tubing, both without changing rolls.



The benders are extremely easy to operate and can be placed anywhere along the length of tube without threading the tube through the tool. Tools measure 9 1/2" x 3 1/2" x 3 1/2", weigh 4 1/2 lbs., and are small enough to be used in close places. Right or left-hand bends can be made by turning the tool over and using its ratchet on the opposite end of the driving roll.

White Tank Truck Design Greatly Increases Capacity

THREE WAY COLLABORATION between engineers of the White Motor Co., Cleveland 1, Ohio, Standard Oil Co. of Ohio and Pennsylvania Furnace & Iron Co., has resulted in a tank truck, with

INGERSOLL

HEAT-RESISTANT STAINLESS STEELS

GIVE ALL FOUR!

-when used for Combustion Chambers

1. MORE QUIET BURNER OPERATION
2. CLEANER HEAT
3. BETTER TEMPERATURE CONTROL
4. CONSIDERABLE SAVINGS ON FUEL COSTS

If you are using or contemplating the use of heat-resistant stainless steels for combustion chambers for oil burner furnaces, we are specialists in producing these types of steels. Whether you are a large or small user of these steels our steel making facilities can offer exceptional service by especially shearing to your specified combustion chamber steel blanks, or multiples thereof. Write us for additional information.

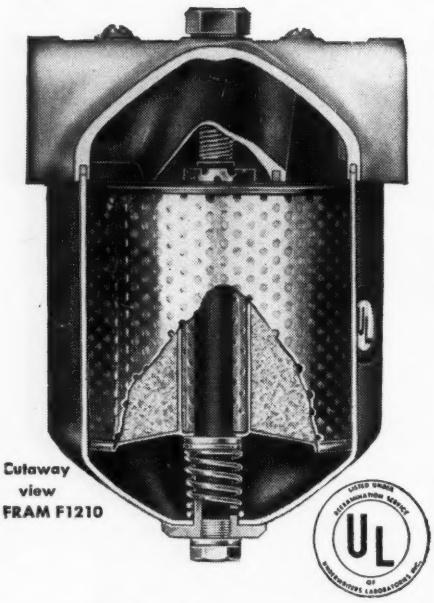
INGERSOLL STEEL DIVISION
BORG-WARNER CORPORATION
310 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

ENGINEERING B-W PRODUCTION

Plants: Chicago, Illinois • New Castle, Indiana • Kalamazoo, Michigan

FRAM
FUEL OIL
FILTERS

Reduce Nuisance Calls—Boost Profits on Service Contracts



Cutaway view FRAM F1210

Filters the oil clean through an entirely new development • Removes dirt, rust, scale, water • Assures steady flow of clean oil to the burner • Protects pump valves and nozzles • Reduces service expense and needless, troublesome calls • Easy to install • Replacement cartridge builds repeat profits • Available in capacities of 2000, 4000, 6000 gallons of oil consumed per year. Send for complete details. Find out how you can profit with Fram.

FRAM FILTERS

MAIL COUPON NOW

FRAM CORPORATION
Providence 16, R. I.

Please send me complete details about Fram Fuel Oil Filters for Oil Heating.

NAME_____

COMPANY_____

ADDRESS_____

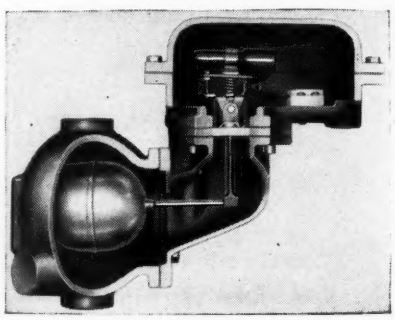
a 35% increase in capacity. Starting with a conventional truck unit, 2800 gal. capacity within legal limitations, savings in over-all length and new weight distribution using the White 3000 model, resulted in a unit with a 3800 gal. capacity and a saving of 2½ ft. in over-all length.

The unit improved the location of tank equipment, with hose and reel placed on the side, reduced the back-end over-hang by 3 ft. and added accessories to improve operating efficiency. The unit is used in winter by Standard of Ohio for furnace oil deliveries and for gasoline deliveries in the summer.

McDonnell No. 65 Explosion Proof, Float-Operated Control

NO. 65 explosion-proof, float-operated electric controller has been announced by McDonnell & Miller, Inc., Chicago 11, Ill., for water tanks, receivers and other liquid storage systems. The device can be used to make or break electrical circuits at high or low levels and has been Underwriters' approved for use under Class I, groups C and D hazardous conditions.

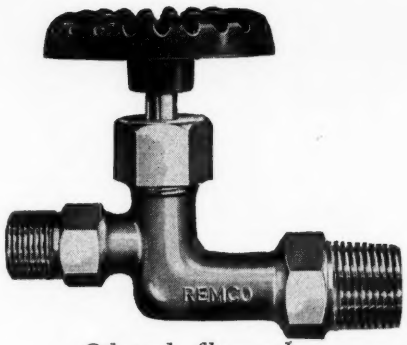
The float switch incorporates McDonnell packless construction, mercury switch and totally enclosed wiring and



terminals. It is furnished with a standard switch that breaks the circuit with falling liquid level, but can be equipped with a reverse acting switch to complete the circuit with falling level. No. 65's float chamber is made of heavy cast-iron, float is copper, float rod is brass and bellows are bronze. Maximum body pressure is 40 lbs.

Remco Adds Oil Tank Filter Valve to Line

ADDITION of an oil tank filter valve to its line has been announced by Remco Inc., Baltimore 2, Md. FV-300 is of-



Oil tank filter valve.

fered in ⅜" and ½" I.P.S. sizes, and supplements TV-100 and TV-200 tank valves, the former available in ⅜" O.D.

BUILD YOUR REPUTATION

with the NEW

TRU-HEET OIL BURNER

PATENTED

Equipped with PATENTED COMBUSTION HEAD

SAVES FUEL

CO_2 high as 15%—no smoke
Oil rate 0.50 to 10.00 G.P.H.

BOILER AND AIR UNITS

Write Today for Full Information On This PROFIT LINE

TRU-HEET COMPANY
532 MILLER AVE.
TRENTON 10, N. J.

Manufacturers of fine oil burners since 1928

tube size, ½" I.P.S. pipe size, the latter in ½" tube and pipe sizes.

The angle design of both valves permits their use on any tank or drum, and both have been tested up to 250 lbs. psi without leakage. Valve bodies are

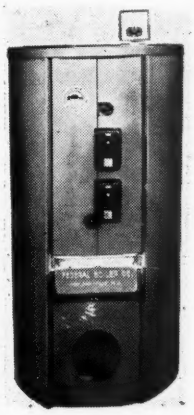
Oil Tank Valve.

made of high quality brass forging and incorporate a precision machined valve stem for positive closure.

Also offered are several two-tank valve packages, Nos. 500 and 600 including Remco tank valves and ⅜" and ½" S.A.E. flared tees; Nos. 700 and 800 including the valves and flared tees for oil filters used at the tank.

Federal FVW Series Is For Small Home Heating

FVW SERIES, an addition to the present FC and FD series offered by Federal Boiler Co., Inc., Midland Park, N. J., is made up of models, constructed and designed for small home use. The FVW is a gas or oilfired unit, for radiant heat, hot water or steam systems, featuring heavy steel wet leg tubular construction and Federal tankless coils with automatic control insertions. The coils are silver soldered into brass terminals. Connection tappings are provided for water or steam hookups.



Models in the series are sized from 320 sq. ft. to 400 sq. ft. actual steam radiation, or 440, 510 and 640 sq. ft. actual water radiation. Btu outputs range from 66,000 to 96,000. Boilers are furnished complete with combustion chamber and can be fitted with flange or pedestal type firing units. Built ac-

HAND IN HAND
Paracoil WATER HEATERS

Have been linked with PROFITS for the many thousands of jobbers stocking them and the contractors installing them—for they represent the best in proven design and service-free performance.

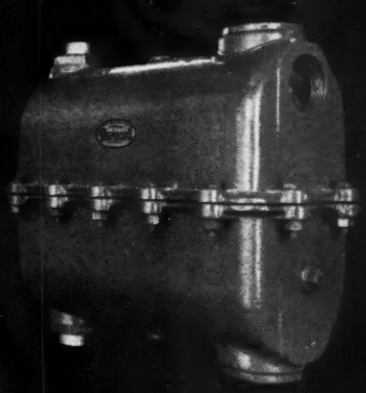
Every type and size available—for every type and size of installation!

- Type A—**Indirect Water Heaters**
- Type B—**Apartment House Heaters**
- Type C—**Submerged Tank Heaters**
- Type D—**Tankless Water Heaters** (Gravity Circulation)
- Type E—**Tankless Water Heaters** (Forced Circulation)
- Type I—**Instantaneous Water Heaters** (Steam Type)

Heating Elements for Storage Tanks
Convertors for Forced Hot Water or Radiant Heating Systems
Condensate Coolers • Flexible Nipples

A TYPICAL PARACOIL VALUE!

Type D Tankless Heater
Gravity Boiler Water Flow
3.5 and 5 G.P.M.— 40°F to 140°F
Boiler Water 180°F
All Copper Water Circuit—C.I. Shell
Low Pressure Drop—
Streamlined Design!



Write for Catalog Material and Prices!

DAVIS ENGINEERING
CORPORATION

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FOR THE
Best Deal
SELL Klemm

Big Market
Good Profit
Repeat Sales

Yes, you will make a good profit on every Klemm Filter you sell—plus the resale of Chemistone filter elements. With the "ready-made" market for filters, you can't afford not to investigate Klemm's special introductory offer! Write today.

ORDER A SUPPLY FROM YOUR JOBBER TODAY

SHOWS...
TELLS...
SELLS...

Klemm JR model oil filters are packed 12 to a display carton to help you show, tell and sell their merits easier.

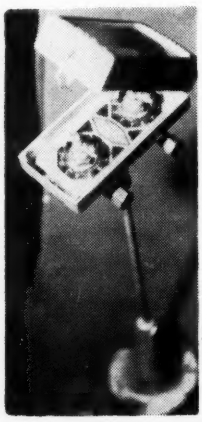
ATTRACTIVE DISCOUNTS TO JOBBERS AND DISTRIBUTORS. WRITE FOR FULL DETAILS TODAY.

Klemm
AUTOMOTIVE PRODUCTS CO.
1718 N. Damen Ave., Chicago 47, Ill.

cording to SBI requirements and available with the ASME stamp, the series features streamlined flush or extended jackets.

Silva Safety Protector For Range Burner Valves

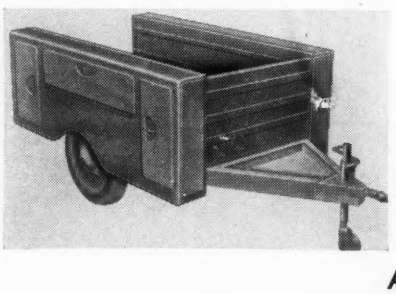
THE SILVA safety protector, an invention of Mrs. Grace W. Kennedy, Fitchburg, Mass., is a metal cover, with glass top, that fits over range burner valves. It is designed to prevent inadvertent changes in valve settings, and, principally, to make it impossible for children to meddle with them.



Slamming the cover locks the device, which then is unlocked by pulling up on the cover. In case of emergency the glass is easily broken and can be replaced with four small set screws. The installation pictured is on a firm pedestal so that even if subjected to heavy weight the oil lines will not be damaged.

Morrison Making Two Sizes of Trailettes

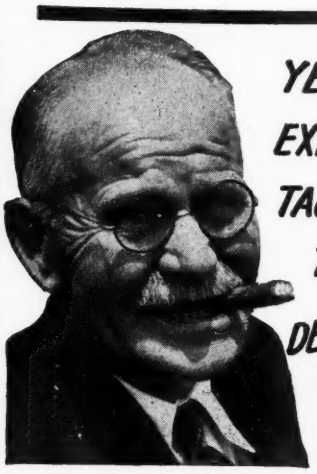
TWO MODELS of Carry-All Trailettes, two-wheel, all-purpose cargo trailers that hitch to any light truck or passenger car, have been announced by Morrison Steel Products, Inc., Buffalo, N. Y. One model is 91-5/16" long, a smaller size measures 75" in length. It hitches easily to all standard bumpers, is completely equipped with an all-car hitch, support jack, wheels, tires, tubes, lights, semi-elliptical springs and a torque-less axle. All Carry-All Trailettes, also, are furnished with weatherproof compartments with double sealed rubber weathertight door openings and have winter-proofed cylinder type locks.



The company recommends their use particularly for dealers who use their own cars and find it necessary to transport equipment or parts or for those operations where it is necessary to deliver equipment and leave it for unloading at a later date.

Redi-Bends Pipe Fittings For Radiant Heat Systems

A LINE OF Redi-Bends, pipe fittings for use in radiant heat installations, is being produced by Capitol Mfg. & Supply Co., Columbus, Ohio, available in 180°,



YEARS OF EXPERIENCE TAUGHT ME TO USE DEPENDABLE GAUGES. THAT'S WHY I RECOMMEND ONLY

LEVELOMETER
Tank Gauges

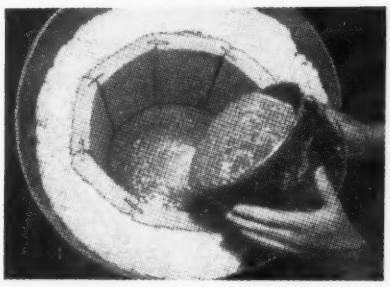
These trustworthy gauges eliminate guess work and offer convenient remote readings... as well as assuring greater protection against overflowing oil tanks. Consequently, Levelometer tank gauges save service calls and offer greater customer satisfaction all around. Little wonder, Levelometer is the choice of dealers who insist upon dependable oil tank gauges.

Midget LEVELOMETER
Lowest priced Remote Reading Gauge built

"Liquids Worth Storing Are Worth Measuring"

THE LIQUIDOMETER CORP.
36-19 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

Try to Match these R & I Advantages



Pouring R & I Hearth Material for floor.

R&I Combustion Chambers can be installed in a third the time . . . at a lower cost . . . than brick or ordinary pre-cast chambers. Sections can be set round, rectangular or pear shape and permanently locked together in a jiffy with bonding clips without any cutting or fitting.

Each standard chamber—with clips and cement for floor and burner blast tube—is packed in a strong carton. That does away with the danger of pieces getting lost, broken or mixed.

Ask for R&I at your supply house. Write us for Bulletin OB-101.

REFRACTORY & INSULATION CORP.
116 WALL STREET **NEW YORK 5, N. Y.**
Chicago 4, Ill. • Philadelphia 2, Pa. • Newark 2, N. J.

Combustion Chamber

BURN-RITE OIL BURNERS
"The Masterpiece of Oil Burners"

MODEL A

For:
Quality
•
Economy
•
Dependability

1 to 3 G.P.H. Firing Rate

Famous
BURN-RITE Anti-Syphon Valves

Write for full details!

- RELIEVES Strain on Fuel Pump
- PREVENTS Back Syphonage
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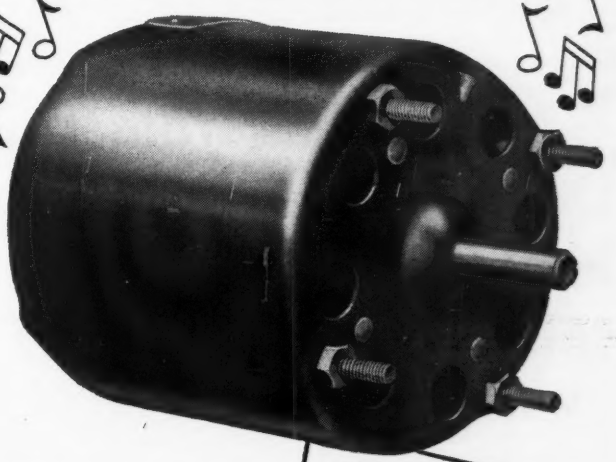
SEND FOR FULL INFORMATION TODAY!

BURN-RITE PRODUCTS CO.
177 W. FIRST ST. MOUNT VERNON, N. Y.

FASCO FRACTIONAL H. P. MOTORS

. . . Help *Revere* Capture Sound Perfectly



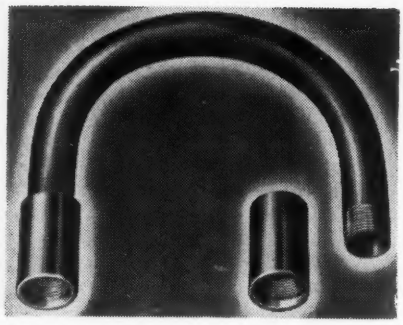
REVERE Camera Company, maker of famous REVERE 8mm and 16mm movie equipment, features tone perfection and important mechanical advantages in the REVERE Magnetic Tape Recorder. A high quality FASCO motor assures *quiet* operation . . . eliminates sound distortions caused by variation in speed. Tape starts and stops quickly . . . no reel coasting, no loss or slur of sound . . . fast rewind and forward speeds save time. All *real* advantages . . . examples of efficient, practical FASCO motor performance.

There's a complete line of FASCO Fractional H.P. shaded pole motors from 1/500 to ⅛ H.P. to help *you* improve your product, or pack maximum efficiency and economy into the design of your new one.

"Your comparison test, too, will prove FASCO best"

WRITE for complete information on FASCO Fractional H.P. Motors.

FASCO INDUSTRIES, INC.
ROCHESTER 2, NEW YORK

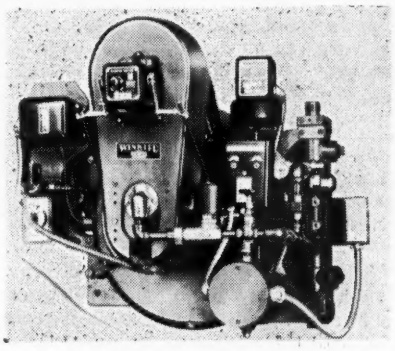


90°, and 45° bends. The fittings eliminate the bending of pipe when fabricating radiant heat panels and are available in pipe sizes from ½" to 2" diameters. A choice of centers is available in each pipe size of 180° Redi-Bends, and while these centers will not conform to the specifications of every job, revisions to permit the use of the fittings are said to be easily made.

Two types are furnished for welding purposes, one made from standard weight pipe with ends formed into welding-sockets by an upset forging process. A sleeve type, with ends beveled for welding is furnished with or without welding sleeves and a coupled type comes with two extra heavy, recessed, taper tapped couplings.

Winkler Horizontal Rotaries With Capacities Up to 70 Gph

DESCRIBED as simplifying and standardizing the equipment needed to burn heavier oils are the Winkler rotary cup oilburners recently introduced by U. S.



Machine Corp., Lebanon, Ind. The burners range in capacity from 4 to 70 gph, function with light and heavy oils, including those that need preheating.

The burner illustrated is the Winkler HH model for heavy oils, hot No. 5 or No. 6. Another model HC may be fueled with cold No. 5 or lighter oils. Both burners are identical, except for oil pump and preheating equipment. All HH and HC models are furnished for fully automatic operation, utilizing the most advanced system of electronic control.

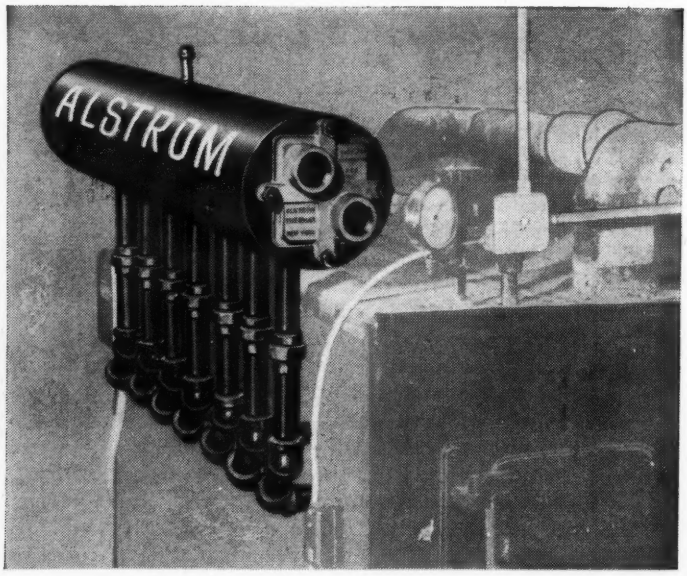
MIPCO Series No. 72-LP Safety Valve for Steam Service

SERIES 72-LP safety valve, available from Marine & Industrial Products Co., Philadelphia 2, Pa., is for steam boiler service up to 15 psig, and unfired pressure vessels up to 30 psig. Furnished in 2½, 3 and 4 in. sizes, with screwed inlet and outlet, the valves can be adapted for flange inlet by the use of a close nipple and companion flange.

Plastic Dustrap Replaceable Type Air Filtering Unit

AVAILABLE from Master Products Co., Chicago 21, Ill., is the Plastic Dustrap air filter, employing curled plastic fibers. It works on a progressive principle, with the exhaust side composed of tightly matted plastic filaments, the center oiled to hold dust firmly and the intake side composed of curled fibers with nat-

Give your customers DOUBLE satisfaction at HALF the cost with this COMPACT UNIT!



VACUUMATIC* **TANKLESS WATER HEATER**

for ALL Sectional Cast Iron STEAM BOILERS

- **SUMMER OPERATION AT 160° ON AQUASTAT:** No steam required for hot water at any time. Hot boiler water, VACUUM-SUSPENDED at highest, hottest point in system, insures unlimited domestic hot water under all conditions of heat demand.
- **NO CLUMSY PIPING:** Boiler connections are 1¼" nipples and elbows, **and no return line is required!**

*trade mark reg.

Write TODAY for full details!

The ALSTROM Corporation

790 E. 176th Street **Bronx 60, New York**

12 PAN SIZES
FLEXIBLE INSTALLATION

THERMO-DRIP AUTOMATIC HUMIDIFIERS

New, advanced design—unbeatable performance—long-lasting construction put the 1950 Thermo-Drip in a class by itself. Easy to handle—quick to install—easy to regulate. In addition, the fast heating, stainless steel pans give almost immediate vaporization as water drips onto the hot pan surface. The flexible design makes the Thermo-Drip *easily adaptable to all warm air furnaces.*

FOOL-PROOF THERMOSTAT

Gives quicker, more positive action—easily regulated as desired—*enclosed valve orifice funnels drip;* prevents plugging of the valve, splashing or spraying. Simplicity of construction insures long life and easy servicing—minimum maintenance.

EASY TO INSTALL

All accessories of the Thermo-Drip Automatic Humidifier are included in one kit. This compact package is economical to buy—easy to use and sell—easy to install. Adapts to every type warm air furnace. Pans rest directly on combustion dome for most efficient operation. Can be suspended in plenum chamber if necessary.

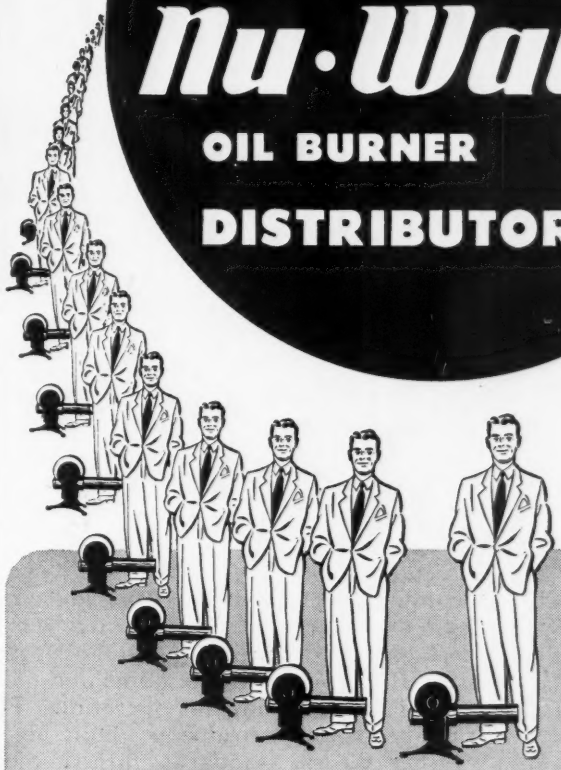
COMPARE THESE SUPERIOR PERFORMANCE FEATURES

- **New, improved air-tight valve orifice has positive seating action.**
- **Fingertip adjustment with lock nut . . . that assures hairline regulation.**
- **No electrolytic action.**
- **No clogging.**
- **Easy to clean and service.**
- **Less parts—simplified design.**
- **No stagnant pool of water left in pan.**
- **Immediate vaporization.**
- **Easy, flexible installation.**

DEPT. FO-30

AUTOMATIC HUMIDIFIER CO.
CEDAR FALLS, IOWA

BE ONE OF THE *Nu-Way* OIL BURNER DISTRIBUTORS



Distribution of Nu-Way Oil Burners has been and will continue to be through leading heating equipment distributors. Right now there are several openings for distributors interested in handling the profitable Nu-Way line. Nu-Way Oil Burners are the result of over 29 years of experience in building oil heating equipment exclusively. Exclusive engineering features such as Patented Air Control and Patented Nozzle Shield plus many other features make Nu-Way Oil Burners easier to sell. Nu-Way Oil Burners are backed by hard-hitting consumer advertising. In addition you are provided with a wide variety of selling aids including newspaper mats, direct mail pieces, booklets and catalogs. Check up on the profitable Nu-Way Distributor Plan!

NU-WAY CORPORATION — ROCK ISLAND, ILL.

CLIP THIS COUPON -- FILL IN -- MAIL TODAY!

The Nu-Way Corporation, Dept. 2-P
Rock Island, Illinois

I'M INTERESTED . . .

in the profitable Nu-Way Distributor Plan. Rush me complete details.

Name_____

Firm Name_____

Address_____

City_____ Zone____ State_____

Nu-Way
OIL HEATING EQUIPMENT

Accurate Answers
demand
Accurate Data

FOR PRECISE READINGS ON RELATIVE HUMIDITY and TEMPERATURE ... RELY ON BENDIX FRIEZ

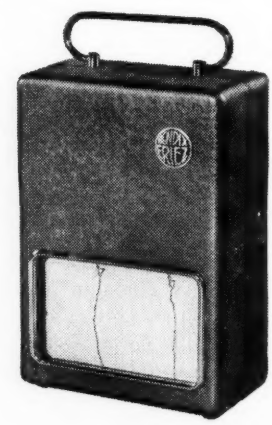
Accurate checking of heating and air conditioning installations is essential to proper operation. And proper operation is, in turn, essential to comfort in the home and peak efficiency in many industrial operations. Bendix-Friez precision instruments, built to U. S. Weather Bureau standards, furnish the exact information that both the customer and the contractor need. Write for complete information.

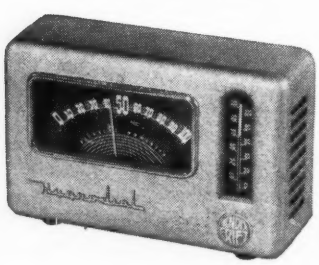
BENDIX-FRIEZ

MODEL 160

Portable Humidity and Temperature Recorder

3" x 5" charts, 10 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.





BENDIX-FRIEZ

Hygrodial

Precision Humidity and Temperature Indicator

Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1⅝" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION of

1322 Taylor Avenue

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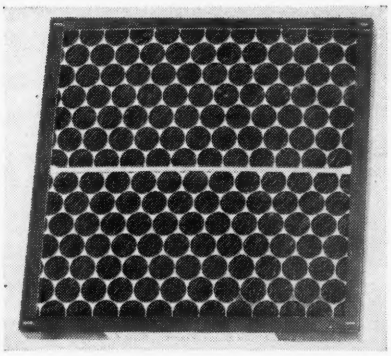
Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

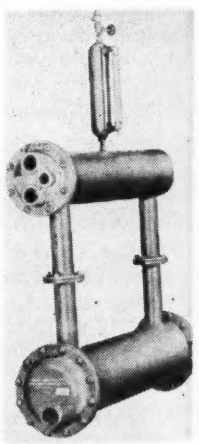


ural impinging qualities to slow the passage of foreign particles. The filter can be cleaned by tapping to shake loose accumulated dust and increase filter life. When necessary, the entire element can be replaced.

The plastic filaments are non-combustible, with the complete unit encased in a fiberboard frame with perforated metal sheets on each side to retain the filtering element. Eight oz. of curled and 12 oz. of uncurled material go into each filter, after which the unit is completed by stapling the frames together. It is made in all standard sizes.

Yula Oil Preheater With Expansion Tank

THERMOSYPHON fueloil heater, announced by Yula Water Heaters, Inc., New York, N. Y., is equipped with an expansion tank and is for use with No. 6 oil. Designed for use as a below water line heater in oifired installations where there is no need to maintain the boiler at steaming conditions throughout the year, the heater has been approved by the New York City Board of Standards and Appeals.



In operation, fueloil flows through the tubes in the upper portion of the heater, boiler water through the lower portion. Secondary water circulates through shells of each heater, with the oil heater shell located well above the secondary water heater shell. The flow of secondary water is induced by differences in the density of water in two vertical lines, and boiler water circulation

SCOTT S-N NEWCOMB

SINCE 1918

PIONEERS in AUTOMATIC HEATING Can Help You MAKE *More Money*

with FAST-MOVING, EASY TO SELL...

S-N OIL BURNERS—Top quality at low prices—quiet, efficient, dependable, and economical in operation. In sizes from 1 to 20 gallons per hour.

LOW PRESSURE BURNERS—burn the low grade oils *efficiently* at rates as low as ½ G.P.H. No nozzle blocking. Metering Pump—no trouble with viscosity changing flow rates. Very quiet.

CONVERSION GAS BURNERS, vertical or horizontal. High CO_2. Horizontal gun type can interchange with oil burner installation.

COMPLETE LINE OF BOILERS—steam or hot water for any kind of fuel. They get more heat from the fuel—because of their superior design.

Revolutionary NEW RADIANT HEATING System—complete with domestic hot water heater at a price competitive with warm air heating. The most important development since Scott-Newcomb introduced automatic heating in 1918.

NO CONCEALED PIPES • NO AIR STRATIFICATION
NO DUST or DIRT • NO HEAT REGISTERS IN ROOMS

CAN BE INSTALLED IN EXISTING OR NEW HOMES WITHOUT ALTERATIONS!

HERE is today's greatest opportunity to satisfy the demand for the *modern comfort* of Radiant Heating at **LOW COST.**

Some Scott-Newcomb territories are now open and being assigned.

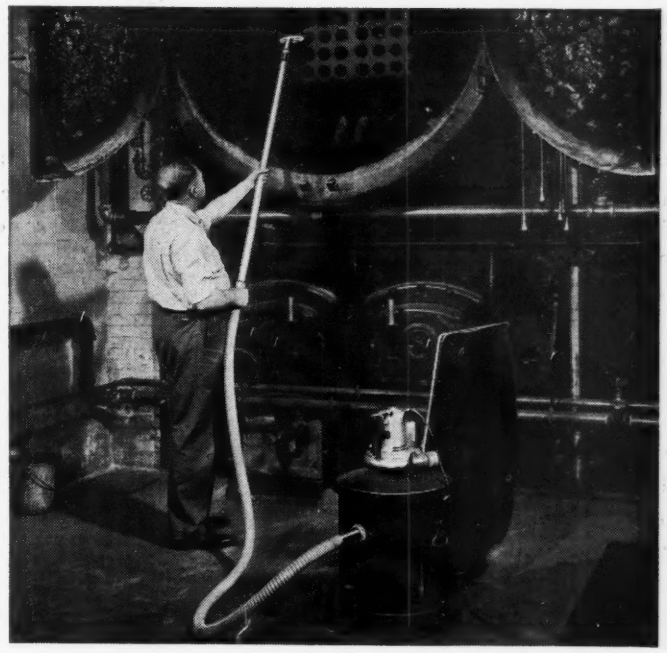
PHONE, WIRE OR WRITE TODAY!

SCOTT S-N NEWCOMB

SCOTT-NEWCOMB, INC.
1450 So. Boyle Ave., St. Louis 10, Mo.

Let this furnace cleaner bring you

PROFITABLE CLEANING BUSINESS



More frequent cleaning of furnaces and boilers pays in fuel saved, experience shows.

You can keep your service people profitably engaged if you recommend more frequent cleaning to your customers.

Modern General Electric furnace-cleaning equipment makes the work easy. With this unit, the soot that cuts down heating efficiency can be quickly and easily removed.

Furnace-cleaning equipment was designed by General Electric engineers to make your furnace-cleaning service more profitable. Learn all about this powerful, speedy cleaner and the accessories available for use with it.

FREE! **Get details of General Electric furnace-cleaning equipment by writing for this catalogue. Learn how your cleaning service can be made a better business for you.**

Write for your copy today

Furnace Cleaner

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, Dept. 22-1620
1285 Boston Avenue, Bridgeport 2, Connecticut

Please send new catalogue and other information on General Electric furnace-cleaning equipment.

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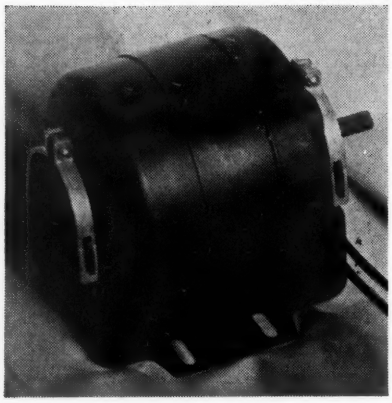
is maintained at a high rate due to single pass arrangements of tubes in the secondary water heater.

G-E Shaded Pole Motors For All-Angle Operation

TYPE KSP, lifetime oil-lubricated, shaded-pole motors, announced by General Electric's Fractional Horsepower Motor Divisions, Schenectady, N. Y., are designed for operation in any position. Furnished with frame sizes 11 and 21, the motors are recommended for use with unit heaters, space heaters, small pumps, blowers and similar applications. Models are available in open or totally enclosed construction, with ratings from 1/40 hp to 1/12 hp, 115 or 230 volts, 1050 or 1550 rpm, 60 cycles.

A new lubrication system provides a constant oil flow to the bearing surfaces regardless of the position of the motor, with oil-saturated packing feeding the bearing with filtered oil. Other features include a unit-bearing construction in the shaft end for greater strength on direct-connected loads, treated stator windings and vibration-absorbing resilient end rings. Mounting arrangements



may be resilient end mounting, resilient cradle base, band mounting or models are available with four tapped holes on the shaft end for end mounting.

Blackmer Reversible Pump For Use On Tank Trucks

A REVERSIBLE TRUCK PUMP, announced by Blackmer Pump Co., Grand Rapids, Mich., has a 40 gpm capacity, designed so that it is possible to reverse pump drive rotation without reversing the direction of flow or without disturbing the piping. The same pump may be used with clockwise or counterclockwise drives, and, with slight adjustment, may be mounted on either side of the truck.

A choice of top or side discharge connections permits installation in small spaces. The pump already has been specified in package metering units for tank trucks and now has been placed in equipment jobber stocks for distribution to users.

Announce Two American Constant Level Controls

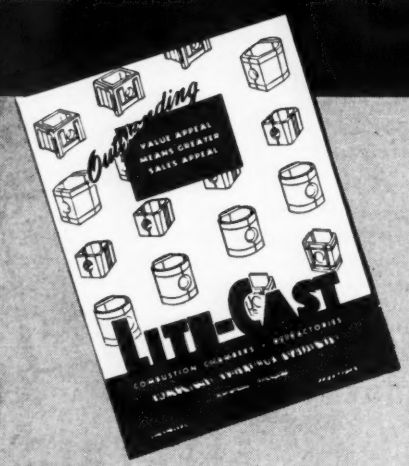
TYPES B-3 and B-3A constant level controls have been announced by American Mfg. Co., Inc., Hartford, Conn. Designed to maintain level of oil being fed to a burner at a constant height, installation instructions recommend that they be installed with the tank outlet at least 18" and not more than 10 ft. above the base of the control.

Fuel enters the control from a supply line and passes through a filter, consisting of sterilized lamb wool. The passage then is upward past a double seated valve and into a float chamber. A hollow float, hinged on a fulcrum pin and engaging valve, maintains a constant oil level by means of a float hinge. This level is adjusted at the time of manu-

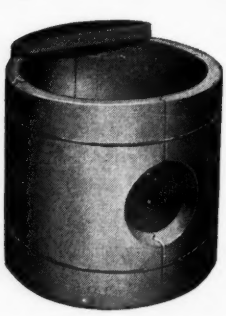
LITE-CAST— COMBUSTION CHAMBERS

Engineered for

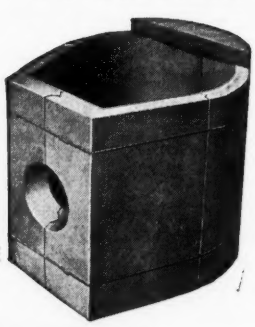
Quality • Efficiency • Performance!



Send for our new 12 Page Illustrated Catalog, containing valuable specifications and information on combustion chambers.



ROUND
For use in warm air furnaces and round boilers.



PEAR SHAPE
(Pat. #2075433)
Made in 8 sizes to meet all domestic oil burner conditions.

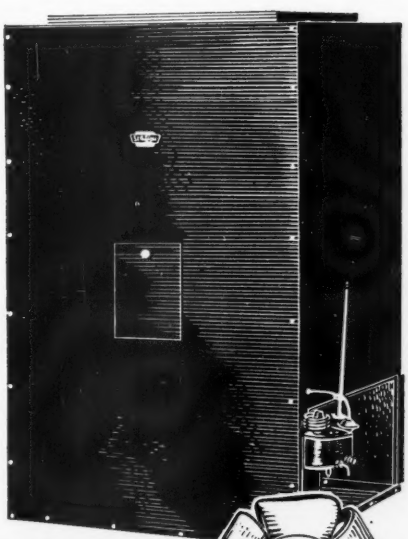
Everything included in wooden box for complete installation.

We Specialize in sizes and shapes for almost every application
Truly "TIME TESTED"—over 15 Years of Top Performance in Domestic Oil Heating.

PHILADELPHIA 4 **MONOGRAM PRODUCTS COMPANY** PENNSYLVANIA

Designers & Manufacturers

now *you can sell* an automatic furnace at the price of a hand-fired furnace!



Prospects Unlimited!

Think of your own prospect list for automatic heating where price has stopped a sale. You can sell these folks now!

QUICK FACTS ABOUT THE SCOTSMAN FURNACE

Oil-fired gravity type—blower cabinet available if desired.

Scotsman all-stage vaporizing burner with D-L modulating control and limit control.

72,500 B. T. U. output. (Commercial Standards)

77.9% efficiency. (Commercial Standards)

Thermostatic operation without electricity.

Hundreds of Scotsman furnaces in operation. We'll refer you to users.

Write for catalog and prices!

1st

The manufacturer of Scotsman furnaces has been first in vaporizing burner advancements since 1933—first with pilot firing, modulating control, all-stage burner.

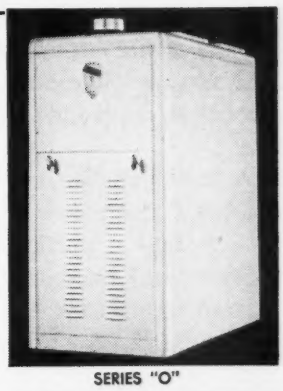
AMERICAN GAS MACHINE COMPANY

SCOTSMAN

ALBERT LEA, MINNESOTA

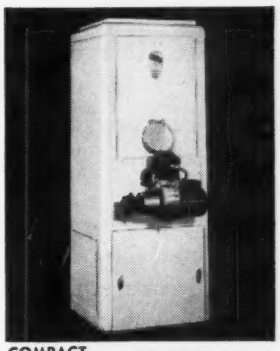
HESS

Climate Master Line for 1950

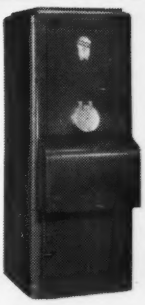


SERIES "O"

Here's a *profit-building* line of furnaces that includes a unit for every purse and purpose. Hess furnaces are easy to sell because they embody the highly efficient *square* design heat exchanger . . . offering more direct radiant surface for highest heat transfer . . . made of heavy gauge *welded* steel. They're easy to sell because each furnace is backed by HESS' 77 years of leadership in warm air heating.



COMPACT 80-P



COMPACT 80-V

SERIES "O"—Oil-fired Winter Air Conditioner. White baked enamel finish. In 4 sizes to 175,000 BTU.

COMPACT 80-P — High pressure oil burner. White finish. 80,000 BTU capacity. Ideal for utility rooms.

COMPACT 80-V — Vaporizing oil burner. Available in white or coppertone. 80,000 BTU capacity.

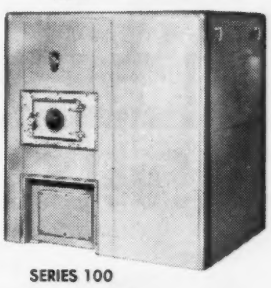
SERIES 100 — Oil, gas, or coal fired Winter Air Conditioner. In 4 sizes up to 160,000 BTU. Coppertone finish.

SERIES 530 — Oil, gas, or coal fired Winter Air Conditioner. Capacity to 240,000 BTU (oil fired). Coppertone finish.

SERIES 500—Gravity unit designed for any fuel. In 5 sizes to 167,000 BTU capacity. Coppertone finish.

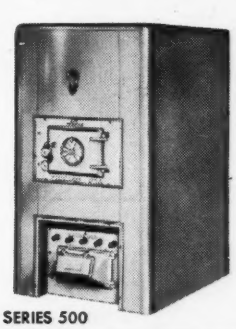
SERIES A — Standard Galvanized Cased Hess Furnaces for gravity or forced air. Coal, oil, or gas. 82,000 to 500,000 BTU capacity.

SERIES 61-62—For industrial and commercial applications. Oil, gas or stoker to 1,200,000 BTU.



SERIES 100

SERIES 530



SERIES 500

Distributors and Dealers! Here's a complete line for you—from one reliable old-line manufacturer!

Write today for details.

The Hess Company

132 N. CLINTON ST., CHICAGO 6, ILL.

SINCE 1873 · OUR 77th YEAR

facture, and is indicated by a line marked on the outside of the casting. The flow of oil continues downward through an outlet and to the burner feed line.

A safety feature incorporated provides that, if for some reason the shut-off valve fails to function, oil continuing to flow into the chamber will seep through holes in the hollow float, sink it and raise the valve to engage its proper seat.

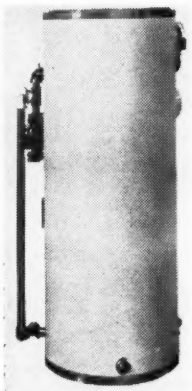
H-W 56 Refractory Is Lightweight, Castable

H-W 56 LIGHTWEIGHT, castable refractory, developed by Harbison-Walker Refractories Co., Pittsburgh, Pa., combines lightness with high strength and insulating values. It weighs 56 lbs. per cu. ft., has a thermal conductivity 65% less than high duty fireclay brick and may be used safely in temperatures up to 2000 degrees F.

Plastic and workable, H-W 56 can be cast or trowelled in place and is packaged in moisture-proof sacks, containing the exact amount for 1 cu. ft. of construction. It is recommended for such applications as furnace walls, boiler settings, ducts and breeching linings, domestic furnaces and furnace door linings.

National Packet Boiler Is All-in-One Heating Unit

NATIONAL PACKET, manufactured by National Radiator Co., Johnstown, Pa., is an automatic heating unit, including steel boiler, oilburner, tankless heater, controls for steam or hot water heating. Its basic part is a vertical steel boiler of new design, whose horizontal flue travel and synchronized operation are described as assuring high operating efficiency. Model numbers assigned are OU-19-WF for the water boiler, OU-19-SF for steam, both with an output gross rating of 116,000 Btu/hr. The Packet occupies approximately 4 ft. of floor space, normally is furnished with a flush type grey jacket, but can be shipped with a white jacket, completely enclosing the unit, for kitchen or playroom installation.



The first of three important features claimed for the unit is synchronized operation resulting from all components engineered and designed to work in harmony and second, the jet flow of heated water directed through the tankless heater coils actively scrubbing the heating surfaces for speedier heat transfer. The third feature is maximum water-backed heating surface, plus extra water capacity for maximum radiant heat absorption and greater operating economy. Installation of the Packet is said to entail only service connections and wiring.

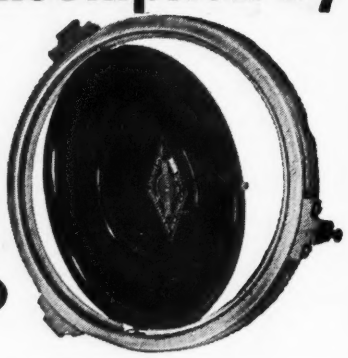
Hunter Combination Windows With Triple-Track Arrangement

HUNTER SALES CORP., Philadelphia, Pa., now offers a twin sliding window with conventional self-stored screen located beneath the bottom of the top glass insert. Full scale production has been attained on the triple-track window which guides a roll screen into position. The

PREFERRED
DRAFT-A-JUSTORS

Cut Fuel Consumption by

10% TO 30%



The *Preferred* Draft-A-Justor is the original, patented Draft-A-Justor . . . improved to include the latest in engineering developments.

Stainless steel bearings and weather resistant metals provide long-life service without breakdown due to rust or wear . . . assure *continuous* fuel savings.

Millions now in satisfactory use.

WRITE FOR DESCRIPTIVE LITERATURE AND TRADE PRICES.

SIZES

Stove, domestic and commercial sizes from 4" to 24" in diameter.

Industrial sizes from 2' x 2' to 5' x 12'.

PREFERRED UTILITIES MFG. CORP.
1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

Solenoid
STAINLESS STEEL
Valves
FOR OIL BURNERS

For increased customer satisfaction, always install Skinner Valves on new burners and as replacements. Soft synthetic inserts assure long life without leakage. Spring loading positively opens or closes valve in any position. Coils impregnated to withstand moisture. Available for drip eliminator, cut-off, pressure relief, gas ignition, shut-off, shut-off metering, shut-off with manually adjustable by-pass. All models for continuous or intermittent duty.

New Bulletin No. 492 contains complete data and prices. Write for FREE copy.

SKINNER ELECTRIC VALVES

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
141 Belden Ave., Norwalk, Conn.

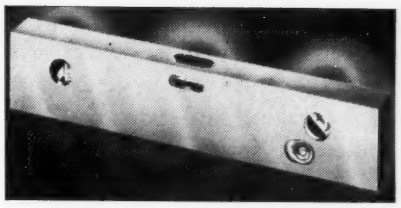
screen is contained in a small aluminum box attached to the bottom of the storm window frame, arranged so that the screen is carried up the tracks when the bottom glass insert is raised.

When the glass is lowered the screen re-rolls into the box. If no screen is desired, it can be disconnected without the use of tools. The aluminum box and screen can be removed completely, also without tools, if desired, but if left in place neither can be seen when the windows are closed.

Luma-Level Features Light For Use In Dark Corners

DESIGNED by a shop foreman who tired of juggling a level and a light, Luma-level, produced by International Mfg. Co., Denver, Colo., features a self-contained light for use on dark interior jobs or poorly lighted locations.

It is machined from cast aluminum, with everything, except the battery and bulk, guaranteed for life. The case contains the horizontal, vertical and 45° angles, plus the light, which is furnished by a flash light bulb and pencil-light battery. A side panel can be taken off to



allow a new battery and bulb to be snapped into place. Room also is provided for a spare battery.

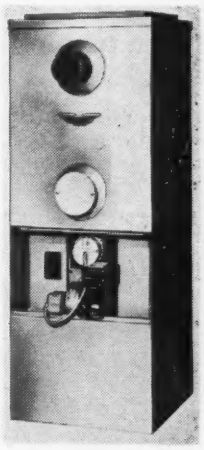
Kliebahn Badger Carbide Drill for Hole Cutting

BADGER tile drills, developed by A. E. Kliebahn, Wauwatosa 13, Wis., are designed for cutting holes in brick, concrete, refractories, stone and similar material. A carbide blade is furnished in a holder, made to fit all types of fasteners, including electric and rotary air tools. Drills are furnished in all sizes from 1/8" up, in sixteenths.

A scientifically ground cutting angle is designed to work rapidly, without leaving cracks or ragged holes even in glazed or polished surfaces, according to the manufacturer. Blades are replaced easily in the holder.

Victoroil Hi-Boy Furnace Fired With Vaporizing Burner

K-55 VICTOROIL hi-boy furnace unit, recently announced by Hall-Neal Furnace Co., Indianapolis, Ind., has a rated output of 80,000 Btu and is fired with a mechanical draft vaporizing oilburner. The unit features patented Victor Fins for increased heating surface and has been designed especially for the small, basementless, utility-room home.



The unit's compact 2 ft. cabinet, width and depth, and 63 in. height, plus one side access to burner, flue outlet, filter, controls and cleanout makes it ideal for snug corner installations. Return air inlet may be located on either side, the bottom or at the rear. For basement installations, the K-55 can be furnished with a top inlet return air boot and filter rack.

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AQUAHEATER
The Insulated Tankless Water Heater
GUARANTEED FOR 15 YEARS

. . . SAVES ON SERVICE CALLS
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AquaHeater's *Rocklining* coats inside of steel shell, prevents rust or corrosion—"Factory-formed" insulation fits perfectly, minimizes heat loss. For easier sales, higher profits—install AquaHeater—the water heater that fills the bill of homeowner wants!

Available in 3 sizes for 3½, 5 or 8 gallons per minute. See your jobber or write direct for literature on

AQUAHEATER
The Insulated Tankless Water Heater
GUARANTEED FOR 15 YEARS

Joseph E. Lewis & Co., Inc., 1309 Carroll Street, Baltimore 30, Md.

MORE OIL BURNER ACCESSORIES by Buckeye

Those two words, "By Buckeye," are a familiar guarantee of thoughtful engineering and good construction; the performance and long life your dollars should buy. Pictured here are a few of the many items that make up the Buckeye complete line of Oil Burner Accessories.

No. 623 Flush Fill Box
Sturdy but light, cast iron body, brass lid. Made in 2" size for fuel oil installations.

No. 440 Vented Fill Cap
Heavy cast iron. Extension arm on body quickly locates cap for padlocking. Removable vented cap.

No. 628 Hinged Vented Fill Cap
Heavy iron. Used when fill pipe extends above surface. Hinged cap can be locked.

No. 631 Double-Opening T Vent
Each opening has brass fire screen protected by a heavy galvanized hardware cloth.

No. 714A Sludge Pump
All brass with malleable iron handle. Easy to operate at any angle without a foot valve. Expels about 1 pint per stroke.

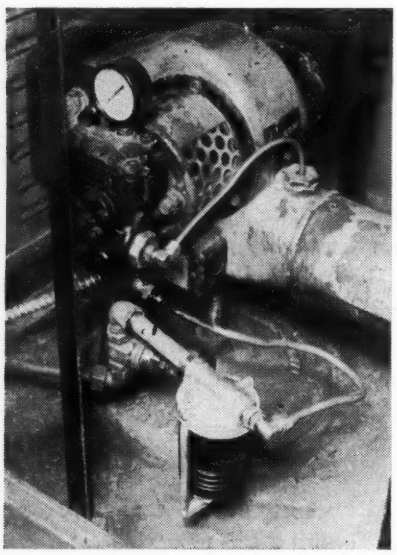
For oil burner installations, Buckeye also makes foot valves, bushings, strainers, check valves and shut-off valves.

BUCKEYE IRON & BRASS WORKS, Dept. F
P. O. Box 883, Dayton 1, Ohio

Everyday Snags

Filter Needs Copper Tubing

An oil filter manufacturer, probably thinking at the time about proper sizes of connections for filters used with domestic oilburners, asked why a dealer would connect up a filter using a new length of copper tubing. Why not connect the filter to the burner using a pipe nipple and elbows and a union, wondered this manufacturer, and simply hook the oil feed line or suction line to the filter?



After this question had been passed on to an expert who supervises the installation of hundreds of filters, a reply was received in the form of the accompanying photograph.

"Here's a two-line job that needed a filter," points out this expert. "First we hacksawed through the pipe nipple that connected the suction line shut-off valve to the fuel unit. This valve can be seen in the photograph. Its handle is behind the new filter.

"We could not move to another position the short length of hard copper tubing that sticks out of the basement floor. We'd have had a kink in the suction line, for one thing. So we connected the filter to the valve using a street el and a 5" nipple; 3/8" size, the same as the valve size and filter size.

"Now we used 5/16" O.D. copper tubing, the smallest size we find practical for suction line where a return line is used, to run from the filter to the fuel unit. Registering zero or no vacuum with the burner running, the vacuum gauge you see on the fuel unit shows it's all right to use this 5/16" O.D. copper tubing.

"When you use this small size copper tubing, which you can bend easily and run around like rope, it's easy to add a filter to an old installation. That's why copper tubing is used."

* * *

Straight Firing

To correct the lopsided fires which certain gun burners produce, it was pointed out on p. 109 of the October issue of FUELOIL & OIL HEAT, you can cock the nozzle adapter to one side by bending the oil line that supports it or you locate the electrodes at one side of the nozzle (use cut-and-try to find out which side gives a straight fire) instead of above the nozzle.

The diagram suggests one more method for producing straight fires, suitable for certain burners. You can alter other burners, where the designs invite this and you want to arrive at excellent combustion quickly, so that this method

IT'S EASY TO STOP RADIO INTERFERENCE

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The whole "trick" in stopping radio and television interference effectively is to have the right filters and know how to use them properly. Sprague interference filters are tops for the job—and you can install them fast and easily in either old or new oil burner installations. Sprague Bulletin C-378B tells the story. Write for yours today!

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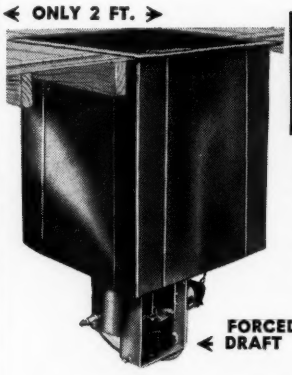

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April 24-29

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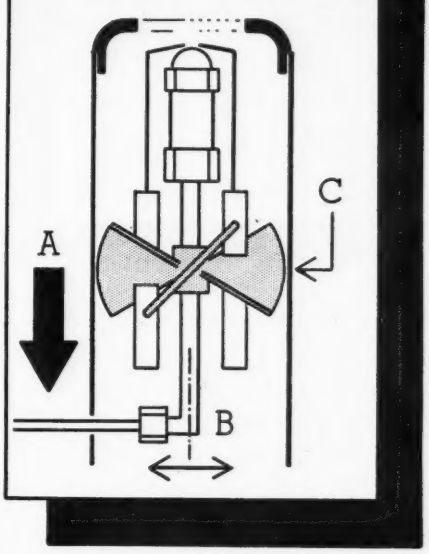
can be used for them also. "A" in the diagram is the small copper tube oil line from the fuel unit to the gun tube assembly. Push or pull on this with the burner running and while you are observing the flame, and you move elbow "B" sideways in the gun tube. This changes the position of the flame in the firebox. The gun tube assembly pivots or rocks at point "C" where the air blades tend to center it. Usually such blades fit the gun tubes loosely.

An expert started using this flame-straightening method after he noticed that with elbow "B" out of center, because of careless burner assembly work or slovenly servicing, the fire was greatly lopsided. Measuring distances and locating the elbow precisely in the center of the gun tube produced a fire slightly off center. It followed that adjusting the position of the elbow with the burner running would produce a straight flame.

Straight flames which do not wipe the side walls of fireboxes give far less soot in basements and flue gases than flames that give impingement of oil particles on firebox side walls.

Ending Crooked Firing



To check closely for flame straightness, run the burner long enough to bring the firebox temperature up to red heat. Stop the burner. Then quickly, before the firebox chills, inspect it to make certain that one side of it is just as hot as the other.

Flame Noise Cure

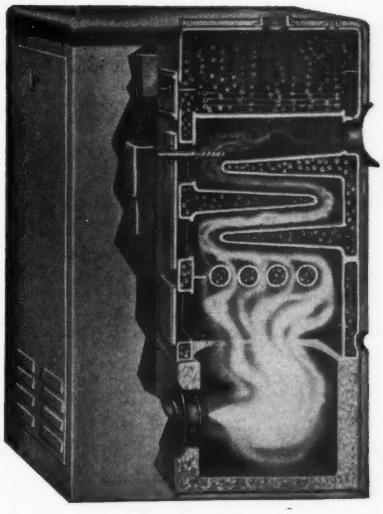
After hours and hours had been spent trying to make a new boiler-burner unit quiet enough, this dealer called on the still-complaining customer, admired the nearly silent operation of the unit, then asked the customer why he was still complaining.

"You can hardly hear it in the basement," admitted the owner, "but in the kitchen at the breakfast nook it seems noisy as a rock crusher. It thumps and rattles the whole place. Come up and listen."

The dealer did. Next to the breakfast nook he found a large basement door which was loose on its latch and which therefore rattled and trembled according to the slight, inaudible vibrations from the flame. The great area of the door in square inches, explained the dealer, plus its sensitive touch on the latch, would make it tremble and shake if a kitten sneezed in the basement.

"We shouldn't have spent hours trying to service a perfect burner," the dealer moaned. "We should have taken ten minutes to rid this door of its seismo-

Steel HEATING UNIT



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NEW PREFERRED Anti-Syphon VALVE

APPROVED BY UNDERWRITERS' LABORATORIES FOR NO. 6 OIL

Here's a new and important development in anti-syphon valves . . . Preferred's Type A Valve, which is the only valve available in these sizes approved by Underwriters' Laboratories for use with No. 6 oil, as well as with lighter oils. This angle type valve takes the place of an elbow when installed at the high point in the suction line, usually at the building wall, where the line drops to the basement floor.

- Built-in dashpot eliminates chattering.
- The new Preferred Type A valve is spring-loaded and is available in 1¼", 1½" and 2" sizes for 5 or 10-foot head pressures.
- For Oils Up To No. 5—Valves C5 and C10 are available in ⅜" and ½" sizes.
- For Oils Up to and Including No. 5—Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)

PR 188

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N. Y.

graphic ambitions!"

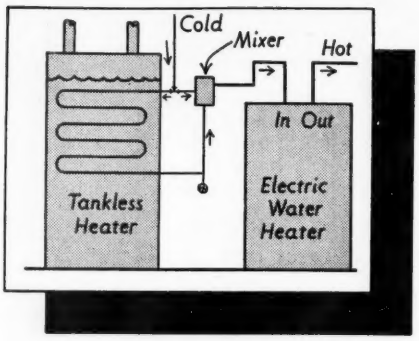
He nailed a small block of wood high on the basement side of the door frame in such a way that, on closing, the door first touches the block, then the knob must be moved farther about 1/16" to put tension on the door when it is latched. No more door rattling, and no more complaint about noisy flame.

* * *

Use A Mixing Valve!

Two objections often are cited against using a tankless coil, particularly a coil in a steam boiler, to preheat water for an electric water heater.

First, certain manufacturers and dealers say the thermostats in their electric water heaters will be damaged by giving the heaters input water hotter than the thermostats are set for. It is threatened that the thermostat guarantees will be voided; replacing the overheated thermostats will be exceedingly costly to an owner. A control expert can say, of course, that the thermostat in a water heater should be of a strain-relief type that cannot be damaged by overheating.



Yet the threat is made, and there's a worry in it.

Second as an objection to using a tankless coil for feeding an electric water heater, an input of 180° or 200° water to an electric water heater set at 140° or 160° may lose the benefits of automatic control of the temperature of the hot water that comes from the faucets. When a great deal of hot water is drawn on cold days, the faucet water may run hotter than the owner desires. Perhaps it will run dangerously hot.

Both of these objections are overcome through the use of a mixing valve or tempering valve along with the tankless coil. Install a suitable thermometer in the line from the mixer to the electric water heater. This is needed to arrive at the proper adjustment of the mixing valve and to permit easy check-up later on its performance. With the heating boiler at its maximum temperature, adjust the mixer so that the water enters the electric heater at the temperature for which the thermostats of the electric water heater are set.

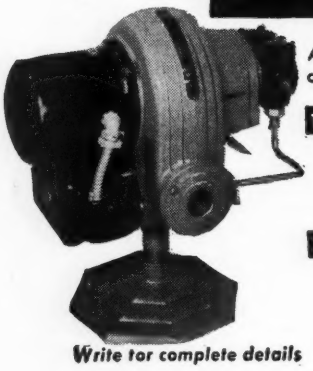
As the years go by, check the performance of the mixing valve from time to time as you service the burner equipment. Observe the thermometer to make certain that water is not entering the electric water heater at an excessive temperature because the mixer needs adjustment or, in hard water areas, has been affected by lime deposits.

* * *

Preheat Tank Ideas

The best of judgment is needed for selecting the type and size over-fire coil, pipe, or casting, when the preheat tank arrangement shown in the diagram is used. A pipe coil, pipe arrangement, or specially made casting can be installed

important OIL BURNER FACTS ABOUT Radiant THE SERVICEMAN'S BURNER



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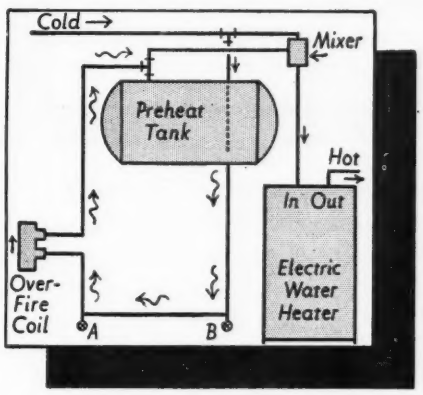
over the fire, in a warm air furnace fired by a pressure burner for example. This heat pick-up device or arrangement will serve to increase the temperature of the preheat tank during the heating season. The cost of operating the electric water heater, given water from the preheat tank, will be cut greatly. Equally important in many homes, during the heating season the water heating system can give greatly increased amounts of hot water before cold water comes from the hot water faucets.

Usually the preheat tank is not insulated. This decreases the chances of its becoming overheated on the coldest days of the heating system. In addition, it causes the tank to preheat the incoming water to almost basement temperature in summer. A relatively large preheat tank serves well on both counts, having reduced tendency to overheat in winter, and serving well at removing the chill from exceedingly cold water (well water at 50° for example) in summer. As much as 80-gallons preheat tank capacity sometimes is used for a home occupied by a family of four and in which great amounts of hot water are used.

This brings out the thinking of one careful equipment dealer who installs many layouts of the type shown in the diagram.

First, he aims to use an overfire casting (installed high over the flame given by a pressure burner firing a warm air furnace) that will raise the temperature of the uninsulated 60-gallon preheat tank, which he usually installs, to about 150° or 160° on the coldest days of the heating season.

Second, he protects against inadvertent overheating of the preheat tank by installing on this tank an excellent safety valve that will open for either excessive temperature or excessive pressure.



Third, on his best installations he installs the mixing valve shown in the diagram to prevent overheating and damaging the thermostats in the electric water heater by giving this heater water inadvertently heated to 180° or 200° in the preheat tank.

Fourth, he equips the preheat tank with a thermometer for checking the preheating on coldest mornings. This feature, used for years, can be thanked for the excellent judgment he now shows in planning new installations of this type.

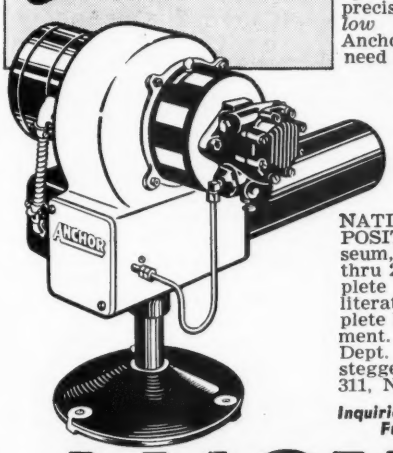
Fifth, line A-B in the diagram is run low as shown, for excellent circulation, and has a drain cock at each end. Removing a few pails of water every six months is found to keep this line free of plugging. Where line A-B has been run as high as the bottom opening of the over-fire casting this dealer uses, there has been sluggish circulation trouble that could be ended only by running this line close to the basement floor.

ANCHOR
Answers
OIL BURNER
Sales Problems!

This high quality, low cost, oil burning unit not only *answers,* but also eliminates, oil burner sales problems. Home Owners love its high operating efficiency . . . its precision engineering . . . its *low cost operation.* This Anchor Oil Burner fits every need and budget . . . it *sells.*

With Anchor, your installation problems are solved, too. This Anchor Oil Burner is compact . . . easy, simple, inexpensive to install . . . occupies a minimum of floor space.

Visit Space 619 at the NATIONAL OIL HEAT EXPOSITION, Commercial Museum, Philadelphia, April 24 thru 28 . . . or write for complete details and descriptive literature on Anchor's complete line of oil heating equipment. ANCHOR DIVISION, Dept. C-3, Stratton & Terstegge Co., Inc., P. O. Box 311, New Albany, Indiana.



Inquiries Invited From Boiler and Furnace Manufacturers

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ATLANTIC STEEL BOILERS

Scotch-Marine type, three-pass, wet base. Spiral baffles in the heavy-gauge, three-inch fire tubes assure the utmost in heat transfer. Firing chamber is entirely surrounded by water and contains a special high-temperature refractory combustion chamber. De Luxe jacket—attractive hammertone finish.

Sizes from 400 to 3840 sq. ft. steam; 640 to 6144 sq. ft. hot water, E.D.R.

Write for full information today!

S. W. CORNER
24th and BROWN STS.
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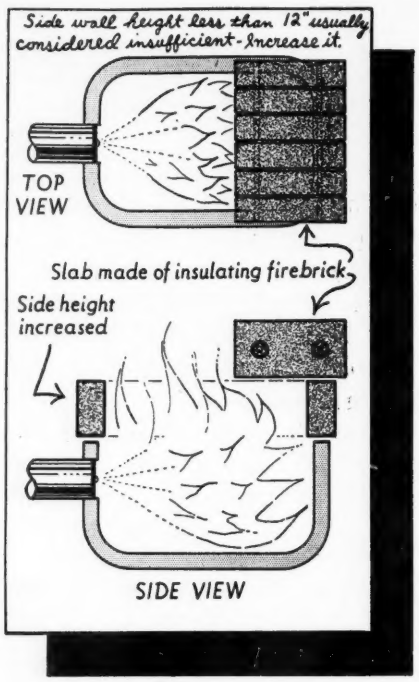
ATLANTIC STEEL BOILER COMPANY

For Higher CO_2

Several comments have been made on the Snag which appeared on p. 110 of the October issue of FUELOIL & OIL HEAT, regarding making firebrick slabs by running steel rods or 1/8" pipe through insulating firebrick which are cemented together. There's no need to use the rods or pipes for a stack of brick used to form a bridge over a firebox, one expert in refractory material declares, because brick cemented together properly become in effect a monolith and serve as well as one large piece of refractory material specially made to serve as a bridge.

A service manager finds, on the other hand, that this idea of using long bolts to fasten insulating firebrick together ends his troubles related to toppling into the firebox of brick cemented to a firebox back wall to form a lip. He has always wanted to use a single row of firebrick to form a lip that juts ahead of the back wall by, say 5" to 7". Now he can do this, using brick bolted together.

Building on this idea, he has worked out what he calls a production line


Side wall height less than 12" usually considered insufficient - Increase it.
TOP VIEW
Slab made of insulating firebrick
Side height increased
SIDE VIEW

method for improving the combustion of small installations originally equipped with fireboxes having side walls unsatisfactorily low according to his ideas.

First, he increases the side wall height by 4½" through use of light, insulating firebrick placed on edge around the firebox as the lower drawing shows. Second, using a slab made up in his shop after on-the-job measurements for this have been taken, he adds the highly effective overhang to the back wall shown in both the upper and lower drawings.

Where the crownsheet is low or the firebox side walls are high to begin with, he adds only the lip shown in the upper drawing.

Using his standardized, "production line" firebox improvement idea permits charging a flat rate for improved combustion. Cleaner burning at the same CO_2 is obtained on jobs which up to the time of improvement were set for higher than about 8% CO_2. Where clean burning at low CO_2, around 5%, was obtained in the past, the improvement gives equally clean burning with CO_2 increased about 3½%.

"We don't just shake our heads sadly now when we encounter a brand new job with a low side wall firebox that never gets red hot and causes sooting of flues," the service manager concludes. "We just sell our production line job of improving the firebox."

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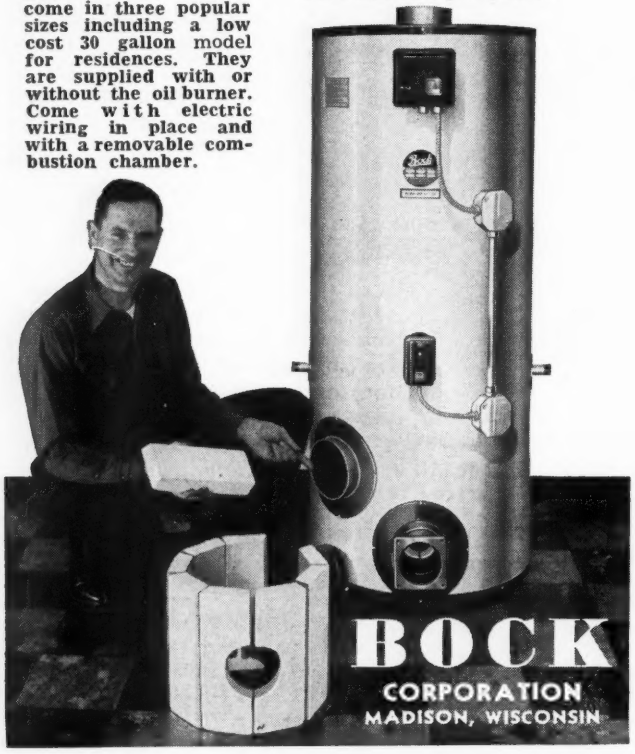
REPEAT SALES

Sell BOCK WATER HEATERS with a Gun type Burner. *Your* Burner if you prefer.

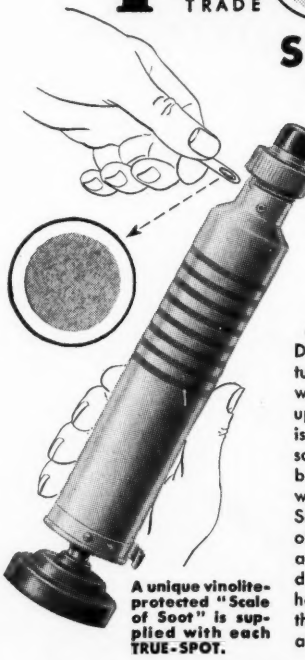
Bock water heaters come in three popular sizes including a low cost 30 gallon model for residences. They are supplied with or without the oil burner. Come with electric wiring in place and with a removable combustion chamber.



BOCK CORPORATION
MADISON, WISCONSIN

The Perfect Team-Mate of the FYRITE Combustion Test Kit

TRUE-SPOT
TRADE NAME
SMOKE TESTER



A unique vinolite-protected "Scale of Soot" is supplied with each TRUE-SPOT.

Indispensable for Adjusting Oil Burners for Maximum Fuel Economy and Clean Combustion

Smoke discs like that shown at the left are obtained by simply drawing, with six pump strokes, a sample of the combustion gases from the furnace flue. Drawing the sample through the tester will turn the test disc to a shade of gray, which will vary from light to dark depending upon the smokiness of the flame. The disc is then removed from the tester and the soot content of the gas sample is measured by comparing the discoloration of the disc with the nine shadings on the "Scale of Soot." This unique scale tells you the limits of permissible smoke for various burners and types of heating systems. 100 test discs are supplied with the instrument. The handle is designed to hold test discs so that they are protected, and conveniently at hand at all times.

The TRUE-SPOT is available separately or as part of a complete combustion test kit. Ask your jobber or write for Leaflet 752.

BACHARACH INDUSTRIAL INSTRUMENT CO.
7000 Bennett Street • Pittsburgh 8, Pa.

Proving Oil Is Dirty

Arguments that seemed endless developed between a certain oil company and the equipment dealer who had installed dozens of winter air conditioning units in a building development, all fired at .85 gph.

The dealer accused the oil company of delivering oil that caused nozzles to plug. He declared that burners using this company's oil had five times as much plugged nozzle trouble as burners using other fueloils. Using the other oils, said he, the burners did not need the expensive double-filter arrangements needed when the troublesome oil was used. The offending oil company should therefore, he suggested, install these filtering arrangements for its customers whose burners fired less than about 1.35 gph.

The oil company answered that the dealer had a good idea, and he should provide highly effective filters for all his burners fired at less than 1.35 gph.

Then the dealer encountered, once more, a severe case of nozzle plugging on a particular installation using this company's oil. Cleaning the nozzle already in the burner was a waste of time, he always felt, so he installed one new nozzle after another until the plugging ended and the burner kept running. In two days, however, the burner was out of order again because of nozzle plugging, and so things went.

After three weeks of trouble, which the dealer kept notes on, he brought out to the job a 55-gallon oil drum, connected it to the burner, and filled it with fueloil he knew caused no nozzle plugging. He proved his point, for when it burned this oil the job had no trouble of any kind. His offer to repeat the test on half a dozen other installations was turned down by the supplier of the oil that had been blamed for nozzle-plugging. The dealer won the battle. The oil company that got licked has found ways to deliver oil more suitable for low gph pressure burners.

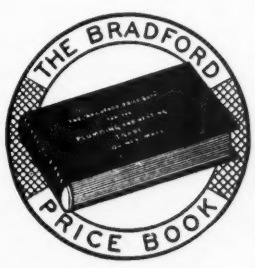
Better Heat Basements

Especially if you handle heating equipment for new, pretentious homes, watch out for the need to heat the basements. Coal and ashes are out of the basements of modern homes, and play rooms, hobby and rumpus rooms, and fancy heating equipment are in. Not only is the heating equipment handsome, in addition it is smaller and better-insulated than the old style equipment.

Radiator heated homes often need basement unit heaters or radiators. Furnace heated homes need warm air supply registers. Heat from purposely-arranged outlets, that can be turned on or off, is far better than the accidental, costly type of heat that used to pour into basements from old-style plants.

Steaming Hot Water

Where tankless water heaters are used, especially in boilers fired less than about 1.25 gph, users of non-automatic washing machines may complain more about the hot water running cool than users of automatic washing machines. The main reason for this, according to one expert who has checked on the problem, is that a housewife may try to fill a non-automatic washing machine with hot water in practically no time. Opening wide the faucet or hose cock in the hot water line, she may attain a hot water flow rate of over 5 gpm if the lines



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are large enough and the water pressure high enough. At this high rate, the tankless water heater in a low-capacity heating boiler will give cool water, not steaming hot water.

An automatic washing machine, on the other hand, has an automatic water shut-off valve that is of relatively small size and capacity; a larger valve would be too costly for the washing machine manufacturer to provide. Consequently, the automatic machine takes its hot water more slowly than a non-automatic machine. Slower flow of water through the tankless heater in a low-capacity heating boiler gives steaming hot water.

On top of this, the user of a non-automatic machine often watches to see if the water entering the washer is steaming, whereas the user of an automatic washing machine usually does not do this. To check on whether or not the water is steaming is difficult or impossible with certain automatic machines.

It helps to advise a complaining owner of a non-automatic washing machine to let in the hot water more slowly, the way an automatic machine lets it in.

Less Soot In Flues

Where a burner owner is complaining about having to clean soot from furnace or boiler flues every two months, says a service man, anyone who knows oilburners can end the problem by (a) installing a burner with a latest-type combustion head made for cat-oil, and (b) providing the last word in an excellent combustion chamber.

"But I ended such a complaint by doing five-minutes' worth of work on one job last year," the service man goes on proudly.

"Just looking over the equipment and talking to the owner showed me that the burner was starting about five times an hour on an average winter's day, and running only two or three minutes at a time. The result was the firebox never got red hot. Even the firebox side walls were covered by a soot deposit.

"My five-minute cure consisted of increasing the differential adjustment of the room thermostat, making the thermostat less sensitive so that in winter the burner would run about 15 minutes at a time. The heat in the different rooms of the house is better, not worse, because now all the warm air ducts get a chance to heat up before the burner stops. The owner can't figure out how, without touching the burner, I ended the soot problem. He's been calling me 'Magician' ever since!"

◈

Hyman D. Rapps, general manager and counsel, Arguls Fuel & Oil Co., Brooklyn, N. Y., died suddenly on March 3 from a heart attack. Mr. Rapps was 56 years of age, had been a president of the New York Oil Heating Association, Inc., a member of the executive board and board of directors and a director, Empire State Petroleum Association. Surviving are his widow, Natalie; his mother, Mrs. Betsey Rapps; a daughter, two brothers and three sisters.

Carl L. Burrows since January 1 has been top sales executive for Coleman Co., Wichita 1, Kans., when he succeeded Ralph W. Carney, vice president in charge of marketing, retired after thirty-eight years of service.

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ALL IN THE DWYER TRANSPARENT COMBUSTION TEST SET

DO ALL SIX:

1. Determine proper CO_2 content.
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3. Adjust air control.
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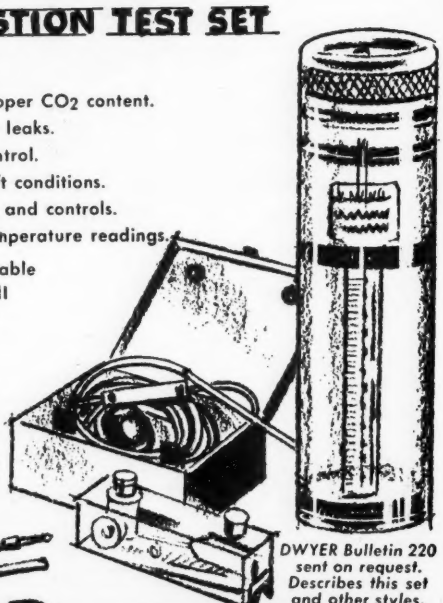
Set includes durable carrying case, all accessories and instructions.



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Howard M. Cutshaw has been promoted to domestic division sales manager, Iron Fireman Corp., Portland 1, Oregon, along with *Stewart H. Kibbe,* named industrial division sales manager and *C. D. Carter,* who advances to the position of assistant sales manager in charge of organization development. C. T. Burg, president, describes the moves as part of Iron Fireman's greatly expanded 1950 sales program, which made imperative the establishment of separate

Left to right: *Cutshaw, Kibbe, Carter.*

industrial and domestic sales divisions. Mr. Cutshaw, formerly assistant sales manager, joined the company in 1928 as district representative working out of Portland. Mr. Kibbe, formerly division engineer in the Northwest district, started with Iron Fireman in 1934 in the product and engineering development department. Mr. Carter, with the company even before he finished studying at Oregon State college in 1927, had been central division manager since 1945.

L. W. Ellis has become sales representative in Oklahoma and western Arkansas for the residential, commercial and institutional boilers, radiators and heating accessories produced by The National Radiator Co., Johnstown, Pa. His headquarters have been established in Oklahoma City 2, Okla.

Carl L. Sadler, Jr., has been named chief engineer, Hydraulic Div., Sundstrand Machine Tool Co., Rockford, Ill. He has been assistant chief engineer of the division for the past two years and before that was with the Aviation Gas Turbine Div., Westinghouse Electric Co., Philadelphia.

Arthur J. Brennan, works manager, Perfex Corp., Milwaukee, Wis., has been elected to the position of vice-president. He joined Perfex in 1947 and before that was manager of purchasing and production, Rochester Products Div., General Motors.

Bill Plowfield, and his organization, Philadelphia, Pa., has been named representative for Yula Water Heaters, Inc., New York, N. Y., in the states of Pennsylvania, southern New Jersey, Delaware, Maryland and the District of Columbia. Also, the Plowfield company and A. C. Gustafson & Co., Forest Hills, N. Y., factory representatives, have become allied and will interchange accounts.

Max W. Knight is the new regional sales manager, Coleman Co., Wichita 1, Kans., for the New England and New York State area. He succeeds *Larry Jagoda,* now assigned to the Coleman Co., Inc. of Philadelphia. Cal Simmons continues as sales engineer in the region.

Richard Morton, with offices at 30 Church St., New York 7, N. Y., has been named representative for Warner Lewis Co., Tulsa, Okla. The company produces a line of specialties for the petroleum industry, including Excel-So separators and filters.

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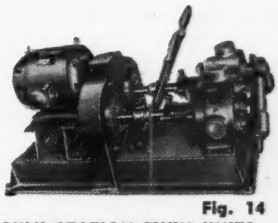

Fig. 14
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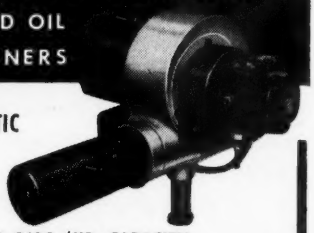

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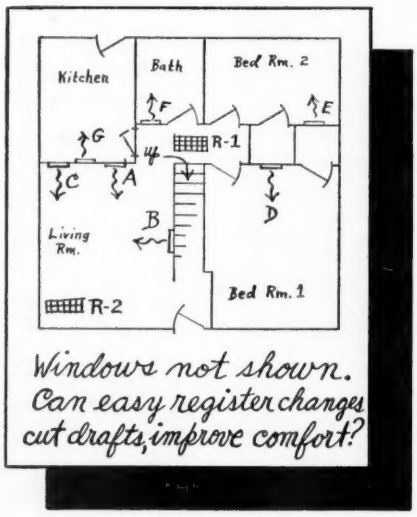
Reader's Problems

Q. Giving first-year service in connection with fueloil contracts to about a thousand new forced-air jobs fired .80 to 1.0 gph to heat lowest-priced homes, I conclude that many of the calls I get are caused by drafts and cold floors. My sketch shows a typical home design that gives draft and cold floor trouble. but it shows warm air suply "B" which I added to some systems, also return "R-2" which I added. My two improvements help a little, but not enough. I want to develop easy, inexpensive im-



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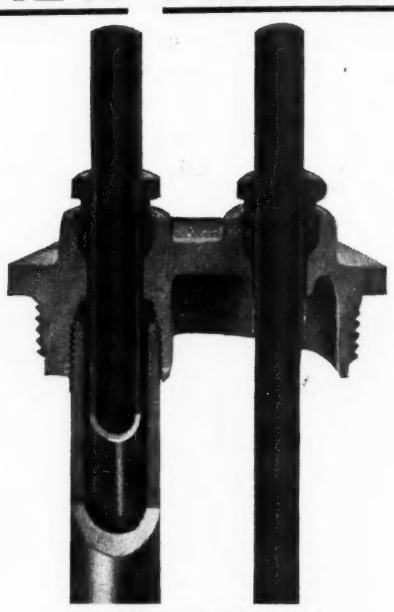

CUT-AWAY VIEW FIG. 381A

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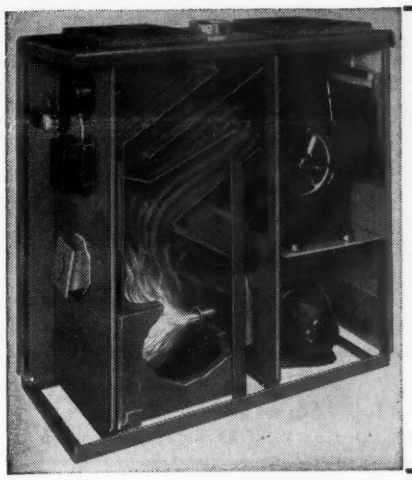

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provements in registers and air-flow to end these service calls about drafts and discomfort. Please discuss this. Bear in mind I'm no heating engineer or designer of such plants. I'm a service man.

O. F. G., Hollis, N. Y.

A. We suggest that, first, you concentrate now on obtaining best possible results from the systems as you find them. Your regular start-up and tune-up of each new system should include: combustion tests of the burner, adjustment of the speed of the circulating blower if needed to produce maximum comfort, special care in adjusting the bonnet control that starts and stops the circulating blower, and balancing of the system through adjusting the dampers of the supply ducts. You should do the balancing with help from a modern instrument that measures the velocity of the air coming from the supply registers. That is most important; the factory representative of a furnace manufacturer reports that 80% of the installations he visits have not been balanced. Supply registers close to the furnaces therefore usually have twice the air velocity they should have. He declares that naturally occupants with any intelligence will put in service calls because of this.

Make a point of instrument-checking half a dozen systems with on-the-job help from the designer of the systems. In addition, write to the manufacturer of the furnaces and ask if a factory representative will spend a day with you instrument-checking the trouble jobs. Using air-flow instruments, you will learn quickly the peculiarities of the different types of systems you service, and you will learn the two or three service steps needed to obtain maximum comfort from each type of system.

Don't try to change or improve the duct and regiser layouts without help from a heating engineer. Taking a pot shot at making the system better by adding a register here or there is not the way to improved operation. You might study up on design of forced-air systems, concentrating especially on register location ideas, and on the number and location of return registers. Learn the different opinions of the recognized authorities.

* * *

Q. Please suggest how to judge the effectiveness of various soot removing powders and liquids. We want to test them.

E. V. T., New York.

A. Read the stack temperature of a boiler, fired at a certain gph rate, after you have cleaned it thoroughly using wire brushes and a vacuum cleaner. Read the stack temperature again with the boiler sooted, to gauge the amount of sooting, and again after you have used one of the soot removers you are testing. Make the same test, at the same gph rate and CO_2 and draft setting, for each of the soot removers you are testing. Good flue cleaning gives a low stack temperature reading.

* * *

Q. This may interest you, coming from an electrical expert who has worked on all kinds and all voltages of

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SIMPLEX PNEUMATIC TURBINE TYPE HEAVY OIL BURNERS

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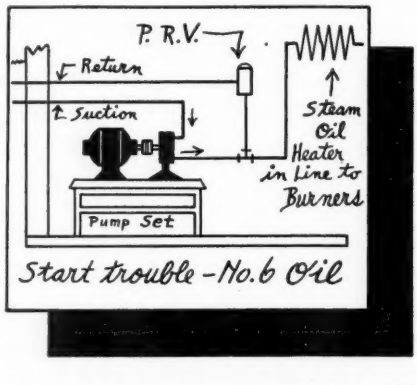
motors. On p. 94 of your last October issue, answering K. S., Yonkers, who gets shocks from motors, you say an expert can easily determine numerically the value of a questionable ground in a motor. I say: It is good to test any motor for defect or ground by putting on its windings (frame grounded) a voltage equal to twice the motor's usual voltage, plus one thousand volts. There'll be a break-through in a sick motor, that's all. A good motor stands the test. No instruments needed; good thing, as they give results that experts often argue about endlessly.

Now may I get an answer to my question?

Hooked up as my diagram shows, this set-up for No. 6 fueloil gives entirely too much trouble starting, cold mornings with boilers cold for maybe eight hours. Burners given oil by this pump set are used to fire three high pressure boilers and one very large low pressure boiler. The plant has its own pipefitters on the job, maintenance men who often have nothing to do for days, and will



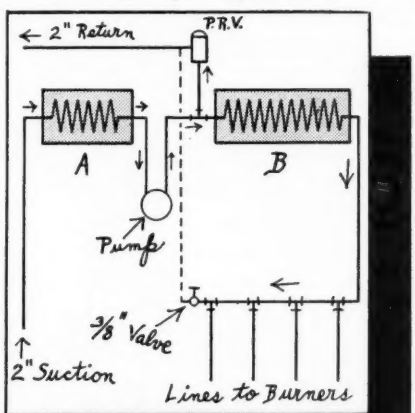
go a great ways to get out of this cold-start headache. What to do?

J. W. T., Albany, N. Y.

A. We've marked the pressure regulating valve in your drawing P.R.V.

Write to the manufacturer of the oil-burners for recommendations and detailed instructions on overcoming the trouble. For one thing, you show a direct-driven, motor-speed oil pump in your sketch, handling unheated #6 oil. Replace this by a slow-speed pump suitable for #6 oil, perhaps a belt-driven pump of type, speed, and capacity recommended by one of the companies that specializes in making oil pumps for such applications.

Our drawing shows a layout that has been used to overcome the difficulty you describe. "A" and "B" are under-the-waterline fueloil preheaters filled with water from the low pressure steam boiler. As these are close to the pump set and far from the heating boiler, water is circulated through them by a 1½" water circulator. "A" is in the suction line to the pump; larger heater "B" is



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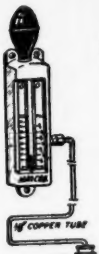

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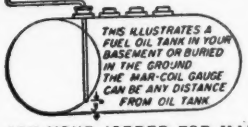
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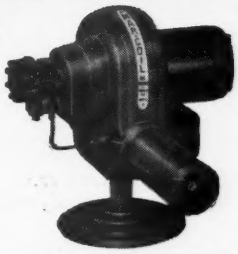
THIS ILLUSTRATES A FUEL OIL TANK IN YOUR BASEMENT OR BURIED IN THE GROUND. THE MAR-COIL GAUGE CAN BE ANY DISTANCE FROM OIL TANK.



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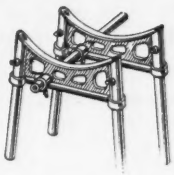

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Regulates temperature of hot water by thermostatic bellows. Sizes ¾" to 2".

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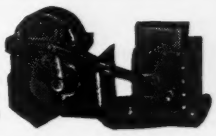

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Type A, 9 cu. in. cushion
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ASK YOUR JOBBER FOR MAR-COIL PRODUCTS

in the feed line to the burners and can be used in series with an already-installed steam type oilheater. Opening the ⅜" valve with the pump running permits purging the burner feed line of cold oil. The 2" suction line and 2" return line both should connect to a pipe tee in the bottom of the oil storage tank, so that warm oil returned to the tank is given the suction line. Additional oil from the tank enters one opening of the tee.

In one plant, the ⅜" valve is left half open at all times, the pump capacity being great enough for this. Although the heating boiler (conencted to heaters "A" and "B") often remains idle at night along with the high pressure boilers, it stays fairly warm. Easy starting mornings has been the result of using a time clock to turn on the circulator motor (that rushes water from the heating boiler through heaters "A" and "B") and the oil pump motor every hour for about ten minutes. The manually-lighted burners are not started, of course, when the circulator and oil pump are started at night. The idea simply is to keep the oil lines full of fairly warm oil.

* * *

Q. I will have a job this summer and am going to recommend hot water but am undecided as to type of radiators; straight convectors, straight radiant, or the radiant that lets air under and up the backside.

It would seem the last mentioned would have less drying effect on the air and yet would give some circulation.

What is your opinion?

I suppose I can get information from companies regarding square feet of radiation, etc.

What is your opinion on installing a vertical oilburner in the old Parlor Arcola? The combustion chamber is only about 13" x 22" and a regular gun type is out since there is not room for combustion chamber.

The vertical type might be all right if flame is small enough for the oil particles to burn in suspension.

F. D. V., Butte, Nebr.

A. Don't try to take into consideration drying effect that radiators may have on the air in a room. True, at the highest radiator temperatures used, certain extremely large standing radiators may give off a large stream of air which is hot and which therefore is relatively dry compared to air at, say, 70° or 75° in the room, and these large, hot radiators can dry out nearby furniture and give the impression that their use results in low humidity for the room.

Actually, however, no radiators have more or less drying effect on the air in a room than other radiators. No radiators add to or subtract from the moisture in the air of a room. The use of all radiators results in the same relative humidity for a certain room.

As you will find out when you study the descriptive literature on different models of baseboard radiation, often the baseboard models which have air-flow arrangements for heating the air have higher outputs. Perhaps you will use plain baseboard radiation without the air-flow arrangements if your job needs only low-output radiation, and will use the other type if high heat losses of the

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rooms make this necessary.

Figure the heat losses of the rooms in the usual manner, then ascertain how many sections of a certain type baseboard radiator can be installed in each room. You cannot help but find out when you do this whether low-output or high-output baseboard radiation is needed to carry the heating load of each room.

You do not give a clear idea of the type burner you have in mind for the Arcola, which from your data seems of especially high capacity for this type boiler. As you seem to have in mind a certain type and make vertical oilburner, we suggest you write the manufacturer of this burner for suggestions regarding firing the Arcola.

Perhaps for good reasons you prefer another type of burner for this installation. But again you may be wrong in believing a gun burner of the high pressure type or low pressure type will not work out very well. Consider that a pressure burner firing 1.0 gph needs, according to some authorities, a firebox only 9½" wide and 14" long, and that even smaller fireboxes are being used for pressure burners that fire .65, .75, and .85 gph, for example. We suggest you obtain data on firing the Arcola from manufacturers of every type oilburner you believe may be suitable for the application. Then draw your conclusions and select the make and type oilburner you will use.

* * *

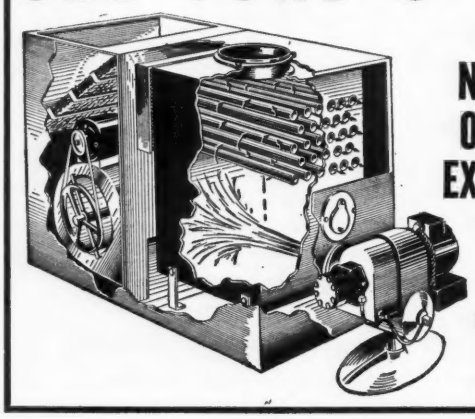
Q. My smoke indicator is a big block of refractory material, the same as heavy firebrick, on the inside of the firing door of my pet boilers as my drawing shows. I've observed for years whether this was clean, indicating the flame was clean-burning, or dirty to show a soot deposit resulting from incomplete combustion. I've always adjusted for the clean fire that kept this refractory door-liner clean. Never had any trouble adjusting all my customers' jobs that way.

In my own recently-completed home I put in a nice, big, oversize boiler of the same type, and even setting the fire for as low as 6% CO_2 won't keep clean my own firing door-liner. Cobblers' kids may have the worst shoes but I want a cleaner fire in my house. With everything the same on my job as on my customers', why in blazes do I have this trouble? I've tried hundreds of different nozzles, adjustments, etc., and fireboxes are all identical.

C. A. H., Newark.

A. Many hours of "on" time a day, and long "on" periods each time the

SEE TURB-O-TUBE



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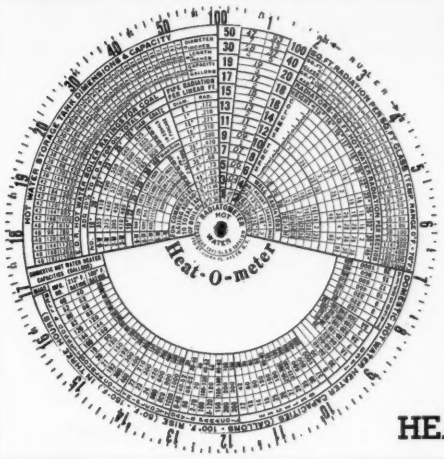

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3. Required size of Mains, Returns and Risers.
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burner runs, help keep clean the inside of a boiler. Our guess is that your boiler is greatly oversize compared to your customers' boilers, and that therefore compared to their burners your burner runs infrequently and for short periods.

Run yuor burner steadily for one hour and find out if this cleans your "smoke indicator." Adjust the controls so that your burner runs at least 20 minutes each time it starts because heat is needed.

If you haven't a clock thermostat, install one. Set it for the lowest feasible night temperature in an effort to have the burner run steadily for an hour or so every morning.

You show a firebox with low side walls. Read p. 74 of the November issue of FO&OH and consider switching to the type firebox recommended there.

* * *

Q. *The closed radiant heating plant we are installing will be filled with expensive anti-freeze. The owner wants to leave the house empty and unheated in winter without having to do tricks to drain or blow out the water from this system. Maximum precautions are needed to prevent loss of this anti-freeze. We don't know, maybe the system will contain more than $100 worth. How do you make certain the system will never lose a drop of the stuff, under any possible conditions with the house heated and occupied or unheated and unoccupied?*

H. D., Hamilton, Ohio.

A. We hope the system design provides for the fact that anti-freeze does not serve as well as water in transferring heat.

Take any or all of these precautions:

1. Provide a closed expansion tank of about twice the size usually installed for this size heating plant.

2. Provide a water glass on the expansion tank. Have it checked regularly to make certain the tank has not become waterlogged. Air must stay in the expansion tank if the system is not to lose its liquid.

3. Provide a pressure control for the boiler, wired to stop the burner if the boiler pressure reaches, say, 25 lbs. Make certain the pressure relief valve of the system is dead-tight closed at 25 lbs. pressure and does not open at below 30 lbs. pressure.

4. After you've filled the system, keep tight-closed a globe valve in the water feed line to guard against loss of liquid caused by failure to close tight of the automatic feed valve or pressure relief valve, and to make certain when the house is unoccupied and without water pressure the liquid will stay in the system. If you are worried, put two globe valves in series in the water feed line, and keep them both tight-closed as a precaution against one of the valves developing a defect in future years that prevents it from closing dead-tight.

5. Have a line from the pressure relief valve terminate in a large catch tank, open to atmospheric pressure but covered to keep it clean. Have this inspected regularly for indications of liquid's escaping from the system.

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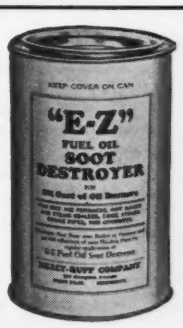

(For fuel oil soot only.) **Keep a supply on every Service Truck. Sell cleaning jobs. Use *E-Z*. One application does a thorough soot cleaning job. Saves time. Pays extra profit. Sell one-lb. cans to customers. If your Distributor cannot supply you, order direct.**

No. 1 Pkg. approx. 1 lb. . . . List $1.00 ea.
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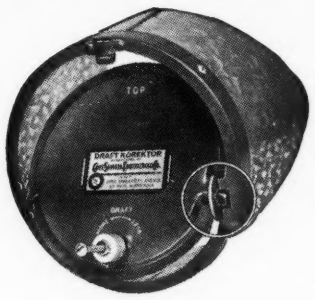
The No. 909 *Draft KoreKtor,* with universal sleeve for 8-9 or 10" pipe is now at an extremely low price.

We are ready to greet you at Booth 540, National Oil Heat Exposition in Philadelphia.



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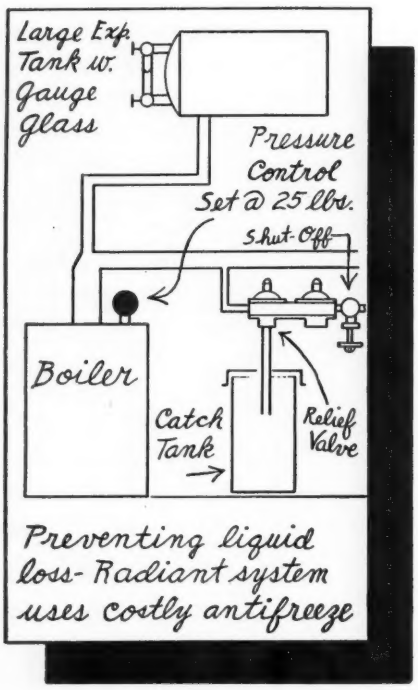

6. Before filling the system, make doubly certain it has no leaks. Use high air pressure. The anti-freeze may escape through places which are tight for water.

Consider having no pipe to connect the system to a water supply line. Make certain that the pipe dope or compound you use, and all the valve seats and specialties, are 100% suitable for use with the particular anti-freeze liquid with which the system will be filled. Consider using a catch tank or pan under the circulator; the circulator gland may leak. You could put on the boiler a reverse-acting pressure control set at about eight lbs. pressure to stop the burner or give an alarm of some kind if because of a leak the system's pressure drops below what should be its minimum.

* * *

Q. I enjoy your Readers Problems and would like to ask a couple of questions myself.

1. Is it advisable to use oil heavier than #2 where there is no regular attendant or engineer on duty?

2. Where or what capacity would the dividing line come in recommending the use of heavy oilburner equipment over regular #2 equipment?

C. M. H., West Franklin, N. H.

A. Automatic burners using fueloil heavier than No. 2 are being used entirely successfully in thousands and thousands of boiler rooms in which no regular attendant or engineer is on duty. Excellent burners are made for fully automatic operation firing up to 135 gph of No. 6 fueloil. No attendant is needed for these, though often they fire high pressure boilers which need an attendant. See p. 68 of the October issue of FO&OH for complete details on the remarkable automatic operation of these big burners.

To decide whether to recommend burners for No. 2 oil or burners for heavier oil, compare the additional cost of the heavy oil installation with the yearly lowering of the fuel bill that would come of using heavy oil instead of No. 2 oil. Of course, one prospective buyer of a burner installation may be anxious to spend $1,000, for example, extra for a heavy oil installation that will save him $200 a year in fuel bills, while another buyer may not. Certain installations in the northeastern states are using

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STOKER & OIL BURNER M-H, PERFEX PENN

No. 6 oil in burners that fire only 6 gph. The owners seemingly were determined to use the most inexpensive fuel-oil. Perhaps they desired also to gain the characteristic advantages of typical automatic burners for heaviest oils. These can include low-fire starting, and automatic matching of the gph rate to the load. Where already-installed big burners are using No. 6 oil, an oil user who needs an additional burner of low capacity often desires that this also use No. 6 oil.

* * *

Q. Am having trouble with a couple of burners in a certain model steel boiler. There's pulsating on start up and stopping. If there is any information you have on these boilers to stop this condition, would be glad to have same.

L. B., Toronto, Canada.

A. First, try different nozzles, full-cone and hollow-cone spray types of the same gph rate you are now using, and find out if simply switching nozzles will end the trouble. Some dealers even try several different makes of nozzles. Also try atomizing pressure from 75 to 125 lbs.

Next if you are made desperate by complaints and desire to end the trouble at once even sacrificing finer aspects of fuel economy and heating system performance, consider that these expedients are being used by experts who do not want to use them but often are forced to:

1. Giving the flame excessive air that makes it appear white and produces a low CO_2 reading.

2. Switching to a much lower gph rate; that is, switching to a nozzle of lower capacity.

3. Providing an air leak at the firing door by arranging the door to stay open perhaps 1/8" or 1/4", or drilling a hole or two of about 1" diameter in the door. Or drill and tap the door to take a 1 1/4" pipe nipple, used as a breather. Pack the nipple with rock wool, to filter soot out of gases that blow out through it on starting and stopping. The rock wool should be loose to enable the nipple to breathe, and should be held in place by wires and screening.

4. Put a 2" breather pipe, similarly filled with loosely-packed rock wool, in the front wall of the firebox and next to or below the gun tube of the burner.

It may be advisable for you to find out on one job which of these expedients is easy to apply for you and will end the trouble for the moment. Then use the same pulsation cure for all your installations, and work towards a better permanent solution with help you obtain by writing the manufacturers of the burners and boilers involved.

Different adjustments for adjustable gun tube air-handling parts often help. Again, because certain combustion heads give more pulsation trouble than others, some dealers remove the air-handling parts from certain burner models and substitute entirely different air-handling parts that do not give the pulsation trouble.

"Spinners" or baffles in the firetubes of certain steel boilers sometimes are removed by dealers made hopeless by such pulsation. Conscientious dealers remove these baffles reluctantly, often with the

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idea in mind that the baffles will be replaced when a better solution to the problem is found.

There are great possibilities, in the direction of finding a really good answer to this problem, in using special equipment on a pressure burner to start the spray of oil from the nozzle only after the burner motor has come up to speed and to cut off the oil spray instantly when the motor current is cut off.

No dealer or service man can say he has looked thoroughly for a good answer to ending the start and stop pulsation problem until he has checked on this aspect. Try a solenoid oil valve, said to be suitable for this by its manufacturer, in the nozzle line; study the possibilities and results of wiring it (a) in parallel with the burner motor, and (b) in parallel with the starting switch of a split phase motor, where the burner uses such a motor.

To check fully, you'll also have to obtain from fuel unit manufacturers data on special solenoid-equipped fuel units designed to give the advantages just described, and you'll have to try such fuel units on your trouble jobs. Obtain data on Sundstrand solenoid operated units for fast cut-off, and the new Webster Electric instantaneous cut-off valve which is electrically operated. Check also on centrifugally-operated clutches used to drive the pump shafts of fuel units.

* * *

Q. Three definitions of a Btu are troubling me.

First, a Btu is the amount of heat released by lighting a paper match.

Second, a Btu is the amount of heat needed to raise the temperature of one pound of water by one degree Fahrenheit.

Third, a Btu is 1/180 of the amount of heat needed to raise the temperature of water from 32° to 212° Fahrenheit.

Can all these be correct?

J.M., Winchester, Ind.

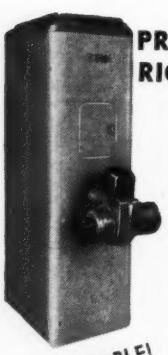
A. We can trouble you further by giving a fourth definition.

Fourth, a Btu is approximately the quantity of heat required to raise the temperature of one pound of liquid water from 63° to 64° Fahrenheit.

You can dismiss as fanciful the first definition. It's all right for a salesman to use in playing a parlor game that catches the interest of a prospective buyer, but is not suitable for your serious mind because it does not take into account differences in matches and whether or not you must burn your fingers before putting out the match. Whether or not a certain match, properly burned, releases one Btu probably never will be known.

The second definition is considered excellent by almost all authorities who have to judge these things. It passes in almost all examinations that call for defining a Btu. It has the microscopic shortcoming of not taking into account the fact that with the water at different temperatures slightly different amounts of heat are needed to raise its temperature by one degree.

The third definition, often termed the Marks and Davis definition of a Btu,



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- Output 90,000 BTU's
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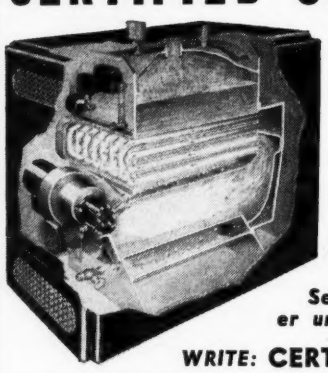

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Instant COMBUSTION EFFICIENCY

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REX ROTO Combustion Chambers are individually packed in our exclusive TIME TESTED-CONSUMER APPROVED shipping container. It is designed to withstand numerous handlings.

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eliminates in one way the shortcoming of the second definition. We suggest that if you aim to be a stickler for accuracy you learn and use this third definition, and when you give it always name it as that of Marks and Davis.

The fourth definition eliminates in a different manner the shortcoming of the second definition, is given in certain textbooks that mention no other definition, but is not used as widely as the third definition. Only after the second definition had been formed and used widely, was it discovered that water did not behave as the originator and users of this definition had supposed. Discovery of the microscopic shortcoming in the second definition led to several different suggestions for eliminating it.

* * *

Q. As an old-timer who still looks at and wonders about old sales literature, I've always wondered if fuel were saved by operating a hot water heating plant under higher pressure than comes of using an open expansion tank. Picture a good, old-fashioned hot water job with an open tank and, say, 12 lbs. pressure on the boiler at all times. If jacking up the pressure saves 10% of the fuel, by converting the system to closed type with a basement expansion tank, why not save additional fuel by engineering for new jobs of this type to run with the boiler pressure higher, perhaps up to 50 or 100 lbs.?

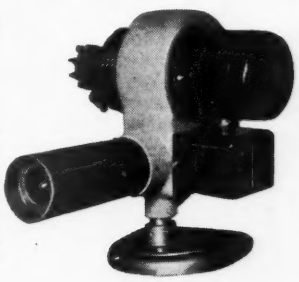
S. P., Peoria, Ill.

A. Increasing the pressure on the system does permit operating at a higher temperature without boiling the water in the system, but as you suggest is not needed in well-designed open tank systems that carry their maximum loads nicely, and does not save fuel in itself. Converting old systems to closed types with basement tanks is done mainly to gain the advantages of automatic operation. It eliminates the need to check the amount of water in the open expansion tanks and to feed water to the systems manually when water is needed. Don't convert a good open system to a closed system mainly to cut the fuel bill.

Joseph H. Mader has been promoted to the post of assistant director, Dept. of Information, American Petroleum Institute, New York 20, N. Y. He had been district representative for the Oil Industry Information Committee in the Middle Atlantic District and is succeeded in that post by *Ernest E. Robinson. Jack McKenzie* also has been added to the staff as assistant to James S. Haskins, supervisor of field operations.

Myles J. Stanton, who died last year, is listed among the forty-seven winners of the Charles A. Coffin Award for work of outstanding merit, the highest honor bestowed on employees of the General Electric Co. Mr. Stanton, with GE's Air Conditioning Department, Bloomfield, N. J., at the time of his death, engaged in special assignments in connection with cost reduction, was cited for the development of a method in the manufacture of heat transfer surface for bonding aluminum fins to copper tubing. The award, consisting of an honorarium, medal and certificate, was presented to his wife, Mrs. Florence Payne Stanton.

HOW TO STOP FUEL WASTE



Imagine a bunsen burner with no central air-hole or a stoker without air driven to the center of the fuel bed.

Only Airflame provides means to drive air into the CENTER of the oil mist ball. Less waste. More Heat.

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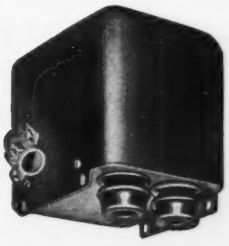
For Oil Burner Ignition



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PHILADELPHIA 22, PA.

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Gasoline or Fuel Oil

New Styling—Low Prices

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Oilheating Trends

(*Continued from page 12*)

FUELOIL STOCKS: Stocks of No. 2 and 3 heating oils at refineries and primary terminals East of the Rockies on March 11 were 35,155,000 barrels, compared with 44,093,000 barrels on the corresponding date of 1949 and 20,659,000 barrels at the same time in 1948.

DEALER COMMENTS: Typical comments on questions of the month are these . . . "The present system of voluntary purchase discounts on fueloil, while temporarily good for the retailer, contains some dynamite. Operating margins could be swallowed up some day before we can protest" . . . "Gas no doubt will make inroads, however most oilburner men take the same attitude toward the gas campaigns as they do towards major oil companies campaigns, forgetting that such companies are not staffed with super men but fellows like themselves, and that gas equipment is also subject to mechanical troubles; millions in the bank does not mean that gas burners are fool proof" . . . "Northern New Jersey dealers are asleep at the switch and can't get an organization together; without an active organization in our group the Electrical Contractor's Association was able to put over an ordinance requiring master electricians licenses for all of our oilburner installers" . . . "In Westchester the unions are ruining much of our oil business and forcing more of the gallonage to the one-truck peddler" . . . "More home building planned for this year than ever before; the year is starting out and looks better than 1947 in volume in our market, but possibly not in profits" . . . "Gas has been released in our community and oilburner sales have dropped for the time but think they will come back after the winter ends" . . . "To compete with gas we will add more salesmen and spend more on advertising" . . . "In our market we have too many inexperienced oilburner service men, which handicaps us in our gas fight" . . . "We are anxious to find out if all major oil companies demand a 'pound of flesh' for a thirty day credit line."

◈

Theo Valjean on March 1 became western district manager, Duo-Therm Div., Motor Wheel Corp., Lansing, Mich. With Duo-Therm for the past twelve years, his territory includes Washington, Oregon, Idaho, California, Arizona, Nevada, Utah and parts of Wyoming and Montana. He had been district manager in the east since 1947 and before that was assistant service manager. *James C. Carlton,* formerly district manager for the western territory since 1936, succeeded Mr. Valjean as eastern district manager. His new territory includes Maryland, New Jersey, Washington, D. C., and parts of Pennsylvania and Virginia, plus metropolitan New York. Mr. Carlton has been with Motor Wheel since 1929, and the following year joined the Duo-Therm sales and service department.

Joseph H. Salmon, associated with Shell Oil Co. for twenty-seven years, has opened offices as management consultant at 201 East 57th St., New York City. He will specialize in oil, gas, chemical and allied industries. During the early period of the war he served as chief, Petroleum Price Section, OPA, collaborating in the administration of oil price controls.

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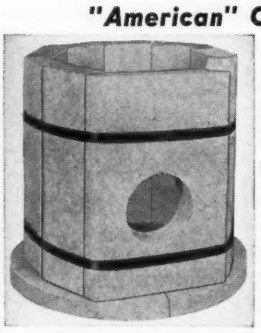

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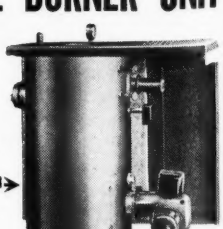

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DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	February		Percent		(Sept. 1 to Feb. 28)			Percent
Normal	1949	1950	Change*		Normal	1949	1950	Change*
1174	920	1241	+ 5.7	Albany	4862	4087	4616	— 5.1
568	373	402	— 29.3	Atlanta	2405	1995	1789	— 25.7
844	592	765	— 9.4	Baltimore	3413	2701	2695	— 21.1
1027	855	1029	+ 0.1	Boston	4215	3565	3766	— 10.7
1168	930	1117	— 4.4	Buffalo	4772	4094	4316	— 9.6
1085	987	1012	— 6.8	Chicago	4539	4035	4141	— 8.8
905	660	759	— 16.2	Cincinnati	3806	2993	2928	— 23.1
1074	824	963	— 10.4	Cleveland	4389	3679	3727	— 15.1
445	465	334	— 25.0	Dallas	1985	2077	1629	— 18.0
900	879	681	— 24.4	Denver	4198	4601	3595	— 14.4
1143	1229	1145	+ 0.1	Des Moines	4893	4900	4754	— 2.9
1141	962	1070	— 6.3	Detroit	4738	4145	4294	— 9.4
1150	1005	1078	— 6.3	Grand Rapids	4855	4261	4415	— 9.1
1062	897	1068	+ 0.5	Hartford	4425	3930	4144	— 6.4
1155	1412	952	— 17.6	Helena	5566	6869	6191	+ 11.2
253	188	131	— 48.3	Houston	1129	997	681	— 39.7
982	791	895	— 8.9	Indianapolis	4139	3617	3498	— 15.5
921	913	821	— 10.9	Kansas City	3881	3848	3496	— 10.0
232	348	228	— 1.8	Los Angeles	891	1420	1085	+ 21.7
824	634	720	— 12.7	Louisville	3432	2839	2864	— 16.6
1181	1157	1119	— 5.3	Milwaukee	5025	4679	4803	— 4.5
1379	1451	1356	— 1.7	Minneapolis	5981	5817	5963	— 0.4
251	120	124	— 0.6	New Orleans	1045	695	747	— 28.6
958	731	893	— 6.8	New York	3842	3043	3085	— 19.8
1098	1247	1101	+ 0.2	Omaha	4695	4971	4777	+ 1.7
881	675	849	— 3.7	Philadelphia	3542	2900	2949	— 16.8
971	704	858	— 11.7	Pittsburgh	4042	3254	3324	— 17.8
1184	1085	1301	+ 9.8	Portland, Me.	5082	4447	5009	— 1.5
622	662	640	+ 2.8	Portland, Ore.	3073	3544	3292	+ 7.1
1032	801	1016	— 1.6	Providence	4292	3451	3705	— 13.7
865	782	771	— 10.9	St. Louis	3593	3321	3066	— 14.7
868	1072	757	— 12.8	Salt Lake City	4176	4944	3896	— 6.8
340	466	360	+ 5.8	San Francisco	1734	2200	1846	+ 6.4
1478	1301	1424	— 3.7	Sault Ste. Marie	6284	5691	6195	— 1.5
644	704	604	— 6.3	Seattle	3221	3659	3444	+ 6.9
1090	913	1047	— 4.0	Toledo	4553	4035	4214	— 7.5
842	576	732	— 13.1	Washington	3496	2707	2636	— 24.6

*Compared with normal. Note: Above figures secured from Monthly Meteorological Summaries published by U. S. Weather Bureau offices in individual cities.

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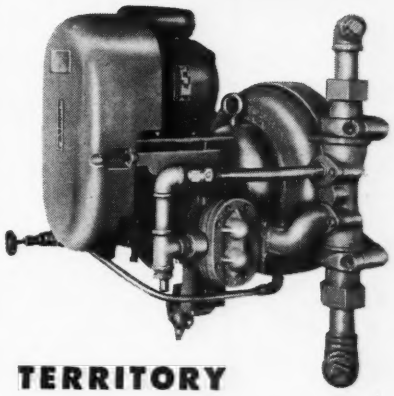

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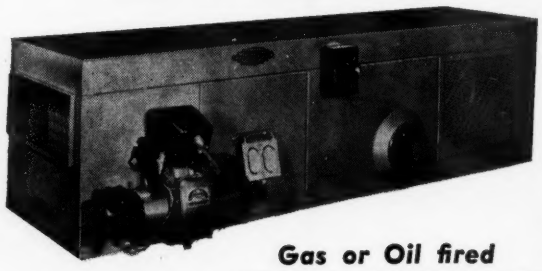

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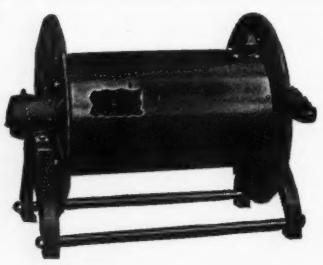

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